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ARCHAEOLOGICAL SURVEY AND TESTING AT PERRY LAKE
JEFFERSON COUNTY KANSAS(U) ENVIRONMENTAL SYSTEMS
ANALYSIS INC KANSAS CITY KS CULTURAL RESOURCES DIV

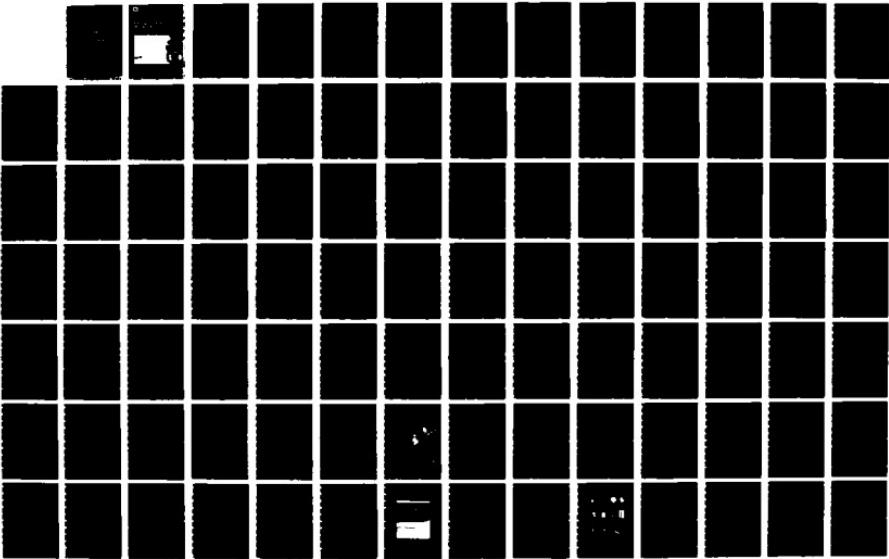
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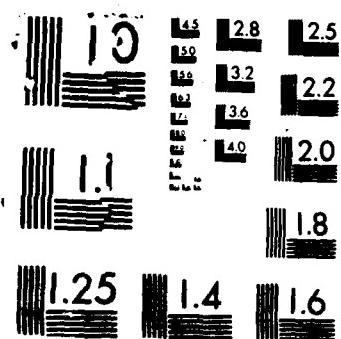
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Environmental Systems Analysis, Inc.
Shawnee Mission, Kansas

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Archaeological Survey and Testing at Perry Lake, Jefferson County, Kansas

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Larry J. Schmits
Editor
Principal Investigator

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ARCHAEOLOGICAL SURVEY AND TESTING AT
PERRY LAKE, JEFFERSON COUNTY, KANSAS

Submitted to:

U. S. Army Corps of Engineers
Kansas City District

DACW41-85-C-0153

Prepared by:

Environmental Systems Analysis, Inc.
Cultural Resources Division
Shawnee Mission, Kansas

Larry J. Schmits
Principal Investigator

1987

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ABSTRACT

Perry Lake is located in the lower Delaware River valley, a tributary of the Kansas River. The project area lies within the Dissected Till Plains physiographic province and within the Prairie Plains vegetational zone. This region is characterized by a rolling glacial landscape with till and loess mantling most of the divides.

The 1985 archaeological survey consisted of an inventory of the 2500 ac of project lands along with the National Register testing of sites 14JF34, 14JF320 and 14JF366. A total of 53 sites including 23 newly recorded sites and 30 previously recorded sites were located. These 53 sites including five Plains Archaic, 21 Plains Woodland, six Plains Village and 35 Historic Euroamerican components. The Plains Archaic components include 14JF320, 14JF414, 14JF417, 14JF483 and 14JF484. The 21 Plains Woodland components include sites 14JF34, 14JF35, 14JF38, 14JF44, 14JF50, 14JF54, 14JF320, 14JF366, 14JF415, 14JF417, 14JF450, 14JF451, 14JF452, 14JF462, 14JF464, 14JF465, 14JF471, 14JF472, 14JF473, 14JF477 and 14JF484. The six Plains Village components include sites 14JF105, 14JF320, 14JF366, 14JF414, 14JF418 and 14JF423. The 35 historic components include 30 farmsteads, two historic townsites, two limestone section walls and one recent historic dump. No diagnostic artifacts were recovered from ten sites including 14JF3, 14JF36, 14JF66, 14JF102, 14JF103, 14JF114, 14JF117, 14JF119, 14JF314 and 14JF454. These sites are primarily small prehistoric light lithic scatters. National Register testing is recommended for 14JF38, 14JF44, 14JF54, 14JF103, 14JF105, 14JF109, 14JF112, 14JF118, 14JF414, 14JF417, 14JF423, 14JF450, 14JF452, 14JF454, 14JF464, 14JF465, 14JF477 and 14JF484. The National Register testing of sites 14JF34, 14JF320 and 14JF366 indicate that they are not eligible for the National Register of Historic Places.

The alluvial landforms in the project area include high terraces, low terraces and floodplains. The Buck Creek Terrace is the most common high terrace in the project area and is composed of Pre-Illinoian (Pleistocene) sediments. The low Newman Terrace fill appears to be late Wisconsin to late Holocene in age dating from 12,000 to 1000 years B.P. The modern floodplain consists of late Holocene and recent alluvium dating from 3000 years B.P. to the present. The principal soil on the floodplain is the Kennebec soil while the principal soils on the low Newman Terrace are the Reading and Wabash soils. The primary soils on the Buck Creek and Menoken high Pleistocene terraces are the Gymer and Haig series. Principal uplands soils include the Sogn, Martin, and Vinland series.

The earliest human occupation of the Perry Lake project area is represented by isolated Paleo-Indian projectile points, although no definite sites have been identified. A number of Archaic sites are present, although none have been intensively studied. The Plains Woodland period is represented by Grasshopper Falls phase, while the Plains Village period is primarily represented by the Pomona focus. A few Plains Village sites have produced evidence of Central Plains Tradition complexes.

During the early Historic period the project area was occupied by the Kansa Indians. The first American expedition near the project area was that of Lewis and Clark in 1804-1805 after the Louisiana Purchase. About 1805, Daniel Morgan Boone explored the region. After Kansas became an organized territory in 1854, the area became embroiled in the bitter struggle between pro-slavery and anti-slavery forces that helped precipitate the Civil War. The period from 1870-1900 experienced a number of disruptions including grasshopper plagues in 1874-75, a major flood in 1872 and severe winds in 1875. The late 1880's saw a hard economic depression. Many changes have occurred in the twentieth century including the advent of the telephone, electricity and the automobile which changed rural life. In 1967 the Perry dam on the Delaware River was completed. Many early Historic trails and roads traversed the Perry Lake area including the Santa Fe, Oregon and Mormon Trails, the Fort Leavenworth to Fort Riley military road, the Leavenworth and Pike's Peak Express road, and the Butterfield stage line.

The settlement patterns of the earliest Paleo-Indian occupants are unknown. Plains Archaic sites are located along the Delaware River mainly on upland terrain, although a number are situated on the floodplain and high terraces. Better known Plains Woodland Grasshopper Falls phase settlements consist of small isolated hamlets located on low terraces of the Delaware and its tributaries. The majority of Plains Woodland sites are on the uplands or high terrace terrain, although a significant number are on floodplains and low terraces. Plains Village sites are widely dispersed throughout the project area. Most are located in small tributary valleys and generally consist of small clusters of two or three sites. About half are on upland terrain and the other half on lowland terrain. Intensive Historic Euroamerican occupation began in the 1850's and included early townsites such as Ozawkie, Pleasant Hill and Valley Falls as well as numerous famrsteads. The majority of the historic sites are situated on upland or high terraces terrain. Few are located on floodplains and low terraces.

TABLE OF CONTENTS

I.	INTRODUCTION by Larry J. Schmits.....	1
II.	ENVIRONMENTAL SETTING OF PERRY LAKE by Rolfe D. Mandel.....	3
	Physiography and Geology.....	3
	Climate.....	3
	Vegetation.....	4
	Soils.....	5
	Alluvial Geomorphology.....	6
	Soil Associations of the Major Terraces.....	8
III.	PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS AT PERRY LAKE by Larry J. Schmits and John M. Parisi.....	11
IV.	RESEARCH DESIGN by Larry J. Schmits.....	33
	Methodology.....	37
	Literature Review.....	37
	Field Survey.....	37
	Laboratory Analysis.....	40
	Determination of National Register Eligibility.....	41
V.	HISTORY OF THE PERRY LAKE AREA by Dennis Shockley.....	45
	Early Exploration.....	45
	Daniel Morgan Boone and the Kaw Indians.....	46
	Issac McCoy and Indian Resettlement in Kansas.....	48
	Early Trails and Transportation.....	49
	Bleeding Kansas.....	51
	Early Settlement: Delaware Township.....	54
	Early Settlement: Ozawkie Township.....	55
	Early Settlement: Oskaloosa Township.....	56
	Early Settlement: Rock Creek Township.....	56
	Early Settlement: Fairview Township.....	57
	Early Settlement: Kentucky Township.....	57
	Jefferson County, Kansas 1870-1900.....	58
	Jefferson County into the Twentieth Century.....	59
	Agriculture and Depression.....	61
	Perry Lake.....	61
VI.	SURVEY AND TESTING AT PERRY LAKE by John M. Parisi.....	65
	Results of the Survey and Preliminary Testing at Perry Lake.....	74
	14JF3.....	74
	14JF35.....	75
	14JF36.....	77
	14JF38.....	80
	14JF44.....	85
	14JF50.....	88
	14JF54.....	89
	14JF66.....	91
	14JF101.....	91
	14JF102.....	93

14JF103.....	95
14JF104.....	96
14JF105.....	97
14JF106.....	100
14JF107.....	100
14JF108.....	103
14JF109.....	105
14JF110.....	107
14JF111.....	109
14JF112.....	111
14JF113.....	118
14JF114.....	118
14JF115.....	121
14JF116.....	122
14JF117.....	126
14JF118.....	129
14JF119.....	131
14JF120.....	133
14JF121.....	136
14JF122.....	138
14JF123.....	140
14JF314.....	140
14JF414.....	142
14JF415.....	151
14JF417.....	152
14JF418.....	154
14JF423.....	155
14JF450.....	156
14JF451.....	161
14JF452.....	162
14JF454.....	165
14JF462.....	165
14JF464.....	166
14JF465.....	166
14JF471.....	168
14JF472.....	168
14JF473.....	169
14JF477.....	170
14JF483.....	173
14JF484.....	176

Results of the National Register Testing at Perry Lake.....	178
14JF34.....	178
Soil Stratigraphy.....	181
Artifact Assemblage.....	182
Discussion and Recommendations.....	187
14JF320.....	188
Soil Stratigraphy.....	191
Artifact Assemblage.....	191
Discussion and Recommendations.....	194
14JF366.....	195
Soil Stratigraphy.....	197
Discussion and Recommendations.....	197

Summary.....	198
VII. SUMMARY AND RECOMMENDATIONS FOR FUTURE CULTURAL RESOURCE MANAGEMENT AT PERRY LAKE ; by Larry J. Schmits	
and John M. Parisi.....	199
Culture History.....	203
Settlement Patterns.....	209
Summary and Recommendations.....	213
REFERENCES.....	227
APPENDIX I Glossary of Technical Terms.....	243

LIST OF FIGURES

Figure 1.	Location of Perry Lake and Jefferson County in northeastern Kansas.....	2
Figure 2.	Location of Terrain surfaces and previously recorded sites at Perry Lake.....	29
Figure 3.	Location of areas surveyed and sites investigated during the 1985 survey and testing program at Perry Lake.....	67
Figure 4.	Location of 14JF3, 14JF462 and 14JF472.....	76
Figure 5.	Location of 14JF35.....	78
Figure 6.	Location of 14JF36 and 14JF115.....	79
Figure 7.	General view of sites 14JF38 and 14JF44.....	81
Figure 8.	Location of 14JF38, 14JF50 and 14JF118.....	83
Figure 9.	Artifacts recovered from sites 14JF38, 14JF44, 14JF50, 14JF54 and 14JF105.....	84
Figure 10.	Location of 14JF44.....	86
Figure 11.	Location of 14JF54.....	90
Figure 12.	Location of 14JF66.....	92
Figure 13.	Location of 14JF101, 14JF102, 14JF103, 14JF104, 14JF417 and 14JF418.....	94
Figure 14.	Location of 14JF105 and 14JF415.....	98
Figure 15.	Location of 14JF106.....	101
Figure 16.	Location of 14JF107.....	102
Figure 17.	Location of 14JF108.....	104
Figure 18.	Location of 14JF109.....	106
Figure 19.	Location of 14JF110.....	108
Figure 20.	General views of sites 14JF111 and 14JF112.....	110
Figure 21.	Location of 14JF111, 14JF112 and 14JF114.....	112
Figure 22.	Artifacts from sites 14JF112, 14JF114 and 14JF116...	115

Figure 23.	Location of 14JF113.....	119
Figure 24.	General views of sites 14JF116 and 14JF117.....	124
Figure 25.	Location of 14JF116 and 14JF117.....	125
Figure 26.	Location of 14JF119.....	132
Figure 27.	Location of 14JF120.....	134
Figure 28.	Location of 14JF121.....	137
Figure 29.	Location of 14JF122.....	139
Figure 30.	Location of 14JF123.....	141
Figure 31.	Location of 14JF314, 14JF454 and 14JF471.....	143
Figure 32.	General views of sites 14JF414 and 14JF415.....	145
Figure 33.	Location of 14JF414, 14JF483 and 14JF484.....	146
Figure 34.	Artifacts recovered from sites 14JF414, 14JF417, 14JF418, 14JF423 and 14JF450.....	148
Figure 35.	Location of 14JF423.....	157
Figure 36.	General views of sites 14JF450 and 14JF465.....	159
Figure 37.	Location of 14JF450, 14JF473 and 14JF477.....	160
Figure 38.	Location of 14JF451, 14JF452, 14JF464 and 14JF465... 163	
Figure 39.	Artifacts recovered from sites 14JF477, 14JF483 and 14JF484.....	172
Figure 40.	General views of site 14JF34.....	179
Figure 41.	Location and plan view of test excavations at 14JF34.....	180
Figure 42.	Artifacts recovered from sites 14JF34 and 14JF320.....	185
Figure 43.	General views of sites 14JF320 and 14JF366.....	189
Figure 44.	Location and plan view of test excavations at 14JF320.....	190
Figure 45.	Location and plan view of test excavations at 14JF366.....	196
Figure 46.	Location of geomorphic surface and cultural components at Perry Lake.....	205

LIST OF TABLES

Table 1.	Relationships between soil series and the parent materials and land forms in the project area.....	5
Table 2.	Archaeological sites previously recorded at Perry Lake.....	16
Table 3.	Distribution of archaeological components at Perry Lake by geomorphological terrain type.....	31
Table 4.	Survey areas and sites investigated in 1985 at Perry Lake.....	68
Table 5.	Artifact assemblage recovered from 14JF34.....	183
Table 6.	Artifact assemblage recovered from 14JF320.....	192
Table 7.	Cultural affiliation of previously recorded and newly recorded components at Perry Lake.....	207
Table 8.	Distribution of archaeological components at Perry Lake by geomorphological terrain type and soil type.....	210
Table 9.	Topographic position, soil type, cultural affiliation, inferred site function, significance and National Register recommendation for sites located in the Perry Lake Survey.....	215

I. INTRODUCTION

Larry J. Schmits

Perry Lake is a flood control project located in eastern Kansas and operated by the U.S. Army Corps of Engineers, Kansas City District (Figure 1). More than two decades of archaeological research have indicated that the Perry Lake area has the potential of producing significant cultural resources relating to the prehistory of eastern Kansas. However, the cultural resources of Perry Lake have been only partially inventoried. In order to provide compliance with Executive Order 11593, entitled "Protection and Enhancement of the Cultural Environment," and the National Historic Preservation Act of 1966 (Public Law 89-665), the U. S. Army Corps of Engineers has contracted with Environmental Systems Analysis, Inc. for a program of archaeological survey and testing at Perry. The study performed herein by the Contractor for the Corps of Engineers is called for in the National Historic Preservation Act of 1966 (PL 89-665) as amended by Public Laws 94-422 and 96-515 and is authorized for funding under Public Law 86-523 as amended by Public Law 93-291. Accomplishment of this work provides documentation evidencing compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment" dated 13 May 1971, and Section 110 of the National Historic Preservation Act.

These investigations consisted of a literature review, an intensive pedestrian survey and limited site testing of approximately 2500-3000 ac of project lands, and National Register testing at sites 23JF34, 23JF320 and 23JF366. The survey was designed to provide specific information on the number of prehistoric and historical archaeological resources present within the survey area, their areal and temporal extent, their cultural and scientific importance, further National Register testing needs and the identity of any potentially significant sites within the project area. The testing at 23JF34, 23JF320 and 23JF366 was designed to provide sufficient information to determine whether these sites are eligible for the National Register. The following report presents the results of the Perry Lake project. Chapter II by Rolfe D. Mandel discusses the environmental setting of the project area. Chapter III by Larry J. Schmits and John M. Parisi details the previous archaeological work which has taken place at Perry Lake. Chapter IV by Larry J. Schmits presents the research design which guided the Perry Lake project. In Chapter V, Dennis Shockley presents the results of the historical research for Perry Lake. The Survey and testing program at Perry Lake are discussed by John M. Parisi in Chapter VI. The final chapter, Chapter VII, summarizes the data presented in the previous chapter and discusses recommendations for further cultural resource management at Perry Lake.

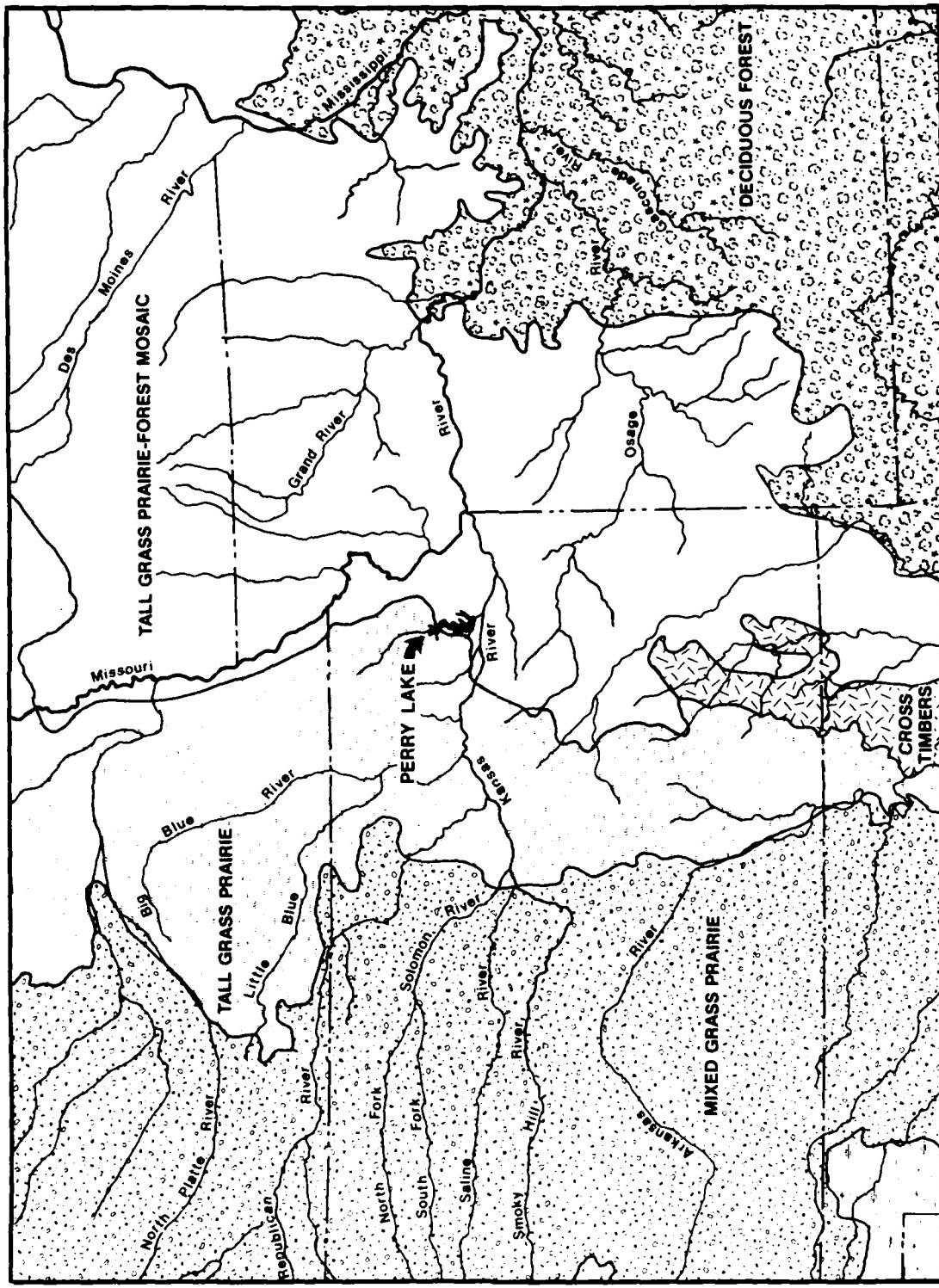


Figure 1. Location of Perry Lake in northeastern Kansas. Vegetational communities after Kuchler (1964)

II. ENVIRONMENTAL SETTING

Rolfe D. Mandel

PHYSIOGRAPHY AND GEOLOGY

The project area is located in the glaciated region of the Central Lowland Physiographic Province. A large portion of the glaciated region is a dissected drift plain that is bordered on the south by the Kansas River valley and on the west by the Flint Hills. During the Pre-Illinoian glacial episodes of the Pleistocene, this area was covered by a continental ice sheet that on the south extended beyond the Kansas River in places and on the west overlapped portions of the Flint Hills (Self 1978:44). The advance of the ice sheet into northeastern Kansas scoured stream valleys and levelled uplands throughout the drift plain (Frye and Leonard 1952). This plain is underlain by Pennsylvanian and Permian bedrock formations similar to those of the Osage Cuestas, although thick deposits of till, outwash, and loess conceal the cuesta-type topography that prevails south of the Kansas River (Schoewe 1949: 289; Frye and Walters 1950). Interstream areas or divides are characterized by smooth, broad, gently rolling hills, while near the larger river valleys, the land becomes more dissected.

The portion of the Delaware River valley in the project area is characterized by (1) a wide, flat, floodplain, (2) low, narrow, terraces, and (3) steep valley walls. The bluffs bordering the valley often reveal outcrops of limestone and shale.

CLIMATE

The project area is in Thornthwaite's (1948) C_2 (moist subhumid) climatic region. This continental-type climate is characterized by large diurnal and annual variations in temperature. The winters are usually short and cold and the summers are long and hot. The mean annual temperature for Jefferson County is about 12.2°C (Murray 1984). The mean daily maximum temperatures for January and July are 4.3°C and 32.1°C , respectively (Dickey et al. 1977:62).

The mean annual precipitation for Jefferson County is about 94 cm. More than 70 percent of this annual total occurs during the growing season, which runs from April through September. This period of maximum precipitation is largely a result of frontal activity. Maritime polar (mP) and continental polar (cP) air masses that flow into northeastern Kansas during the late spring and early summer usually converge with warm, moist maritime tropical (mT) air that is flowing north from the Gulf of Mexico. The overrunning of mP and cP air by warmer mT air often

produces intense rainfalls of short duration along the zone of convergence. Convective thunderstorms in the summer months also produce additional heavy rainfalls.

Winter is a relatively dry period in eastern Kansas. Annual snowfall in Jefferson County averages around 46 to 50 cm (Dickey et al. 1977:61). Snowfall amounts are fairly evenly divided during the period December through March, with a slight peak in February.

Kansas lies in the zone of the prevailing westerlies. Cyclonic frontal cells associated with invading Pacific air masses are largely responsible for the short-term (daily and weekly) changes that affect weather. The weather patterns for the project area are basically those described by Borchert (1950) for his Climatic Region IV, the wedge-shaped mid-continent area of tall grass prairie, often called the Prairie Peninsula. The major characteristics for the region are: 1) low winter rainfall and snowfall; 2) occasional summer droughts with a tendency for major summer droughts to occur synchronously within the region; 3) a continental source and trajectory of the mean air-stream which blankets the region during dry periods, and 4) dominance of moist maritime tropical air from the Gulf of Mexico during the summer.

VEGETATION

The natural vegetation of the project area consists of plants which form two major associations: these are the oak-hickory forests of eastern North America and the tall grass prairie of the Interior Plains (Kuchler 1964). In northeastern Kansas, the vegetation is a mosaic of both plant communities, with each community retaining its distinct character by not mixing with the other (Figure 1). Generally, the oak-hickory community occurs on steep slopes and ravines and along streams. The vegetation of this community is dominated by white oak (Quercus alba), red oak (Q. borealis), black oak (Q. velutina), shagbark hickory (Carya ovata) and bitternut hickory (C. cordiformis). The understory of the oak-hickory forest is well developed but is not extremely dense. Common small trees are redbuds (Cercis canadensis), hornbeam (Ostrya virginiana), pawpaw (Asimina triloba) and hawthorn (Crataegus viridis). Shrubs include gooseberry (Ribes missouriense), sumac (Rhus sp.), deerberry (Vaccinium stamineum) and sweet haw (Virburnum prunifolium).

The tall grass prairie is found generally on level to rolling uplands with clay-rich soils. The areas of prairie are composed of many forbs and few or no arboreal species. The dominant flora are big bluestem (Andropogon gerardi), little bluestem (A. scoparius), switchgrass (Panicum virgatum), Indian grass (Sorghastrum nutans) and brome grass (Bromus sp.).

Severe long-term droughts in northeastern Kansas can have tremendous effects on the distribution of vegetation. Since droughts tend to favor grasses over arboreal species, there is a tendency for the

forest-prairie border, such as the one in the study region, to shift, with grasslands expanding eastward in response to the drier conditions.

SOILS

The diversity in the kinds of soils that have formed in the study area reflects the influence of several environmental factors on pedogenesis. Of primary importance are the kinds of materials in which soils have developed. In the project area, parent materials include (1) residuum of bedrock weathered in place; (2) materials transported by wind (loess); (3) materials transported by water (alluvium and glaciofluvial sediments) and gravity (colluvium); and (4) materials transported by glaciers (till). Table 1 shows the relationship between soil series and parent materials in the project area. Other factors in soil formation include relief, climatic conditions (moisture and temperature), vegetation and time.

Table 1. Relationships between the soil series and the parent materials and landforms in the project area.

SOIL SERIES	PARENT MATERIAL	LANDFORMS
Gymer	Loess and Alluvium	High Terraces
Haig	Alluvium	High Terraces
Kennebec	Alluvium	Low Terraces
Martin	Shale	Uplands
Reading	Alluvium	Low Terraces
Sogn	Limestone	Uplands
Vinland	Shale	Uplands
Wabash	Alluvium	Low Terraces

The residual soils in the project area are the Martin, Sogn and Vinland series. These soils are derived from the limestone and shale of the Upper and Middle Pennsylvanian System. The Martin and Vinland soils formed in material weathered from silty and clayey shale and Sogn soils are derived from limestone (Dickey et al. 1977).

Eolian sediments were deposited in the study area during the Illinoian and Wisconsinan stages of the Pleistocene Series. Gymer soils are formed in the Illinoian-age Loveland loess that blankets the high Pleistocene terraces. Haig soils are associated with the Wisconsinan-age Peorian loess overlying Pleistocene terraces. Both soil series tend to be very silty, although the Haig soil is clayey in some locations.

The alluvial soils in the project area are the Kennebec, Reading, and Wabash series. The Kennebec soils are formed in silty sediments on

the low floodplains. The Reading and Wabash soils occur on low alluvial terraces.

ALLUVIAL GEOMORPHOLOGY

Perry Lake is located in the lower reaches of the Delaware River drainage system. The river flows south from its source in northern Brown County, Kansas to its confluence with the Kansas River in southern Jefferson County, Kansas. A number of small streams join the Delaware River in the area of the reservoir, including Rock, Slough, Little Slough, Walnut, Cedar, Coal, and Brush creeks.

The Delaware River and its major tributaries have valleys which are a kilometer or more wide in many locations. Local relief in the stream valleys ranges from approximately 30 m to more than 100 m. Floodplains in the major valleys are wide and flat, and are often bordered by alluvial terraces. Small alluvial fans are common where first-order streams empty onto the floodplains, and colluvial deposits often occur in footslope positions along the valley margins.

There is relatively little information on Quaternary landscape evolution in the Delaware River valley. However, the Delaware River is in a portion of the Kansas River drainage net that has yielded time-stratigraphic information. This information can be used to help reconstruct the alluvial chronology of the Delaware River and its tributaries.

The Delaware and Kansas river valleys in Jefferson County are composed largely of Pleistocene and Holocene alluvium. Four terraces have been mapped within the Lower Kansas River drainage net (Davis and Carlson 1952; McCraw 1954; Beck 1959; Winslow 1972; Fader 1974; Elks 1979). They are, from oldest to youngest: the Menoken Terrace, the Buck Creek Terrace, and Newman Terrace, and the Holliday Terrace Complex. These four terrace names have become established in the literature.

The Menoken Terrace is Pre-Illinoian in age and is the oldest Quaternary landform in the Kansas River valley. The surface of the Menoken Terrace is about 25 to 30 m above the modern floodplain. Davis and Carlson (1952) suggested that sediment underlying this terrace was deposited by glacial meltwater during the retreat of Kansan glacial ice. They noted that the Menoken fill consists of coarse outwash containing cobbles and boulders at the base, fining upward into thicker units of sand, silt, and clay. However, in many locations, the Menoken Terrace is composed of undifferentiated till and glaciolacustrine deposits (Beck 1959; Jewett et al. 1965; O'Conner 1971). These deposits rest on bedrock benches at high elevations along the margins of the Kansas River valley. Sorenson and others (1986) discussed the problem of the genesis of the Menoken surface. They suggested that the Menoken deposits and features are remnants of ice-contact deposits of various types, including moraines, kames and outwash, and probably are not alluvial

terraces even though their proximity to the Kansas River make them an important part of the valley landscape. Therefore, the term Menoken is retained to describe an unusually amorphous form and/or series of deposits in the study area.

The Menoken surface has been severely dissected by erosion, and only small remnants remain in the area of Perry Lake. These remnants are mantled by Loveland and/or Peorian loess.

According to Davis and Carlson (1952) a cycle of degradation and alluviation during Illinoian time resulted in the formation of the Buck Creek Terrace. The surface of this terrace is about 11 to 12 m above the modern floodplain of the Kansas and Delaware rivers. Deposits underlying the surface consist of sand and gravel which grade upward into silt and clay (Beck 1959). The terrace surface is capped by several meters of Loveland and/or Peorian loess. A strongly developed Sangamon soil is present in the loess and often extends down into the alluvial fill of the terrace.

The absolute age of the Buck Creek fill is not known. Preliminary petrographic investigations of volcanic ash overlying the fill indicate that it is the 0.6 million year old Lava Creek B Ash (Geil 1985). This identification, if supported by fission-track dating techniques, indicates that the fill beneath the ash is much older than Illinoian.

The Buck Creek Terrace is preserved as scattered remnants in the lower Delaware River valley. Most of these remnants occur on the west side of the Delaware River immediately north of Valley Falls, Kansas (Winslow 1972).

The Newman Terrace occurs throughout much of the Kansas River valley west of Eudora, Kansas and it is the dominant terrace in the Delaware River valley. The surface of the Newman terrace is about 3 m above the modern floodplain of the Kansas River. However, since much of the terrace is covered with water during severe floods, it is technically considered part of the floodplain (Holien 1982).

The Newman Terrace typically is a flat, poorly drained surface bordered by low natural levees (O'Connor 1960:60). Unlike the topographically lower surfaces of the valley, it is not marked by old meander scars. The lower part of the alluvium underlying the Newman Terrace consists of coarse sand and gravel, with cobbles at the base (Beck 1959; O'Connor 1960). The alluvium fines upward into dark, silty clay which is found everywhere beneath the terrace surface (O'Connor 1971). This fine-grained material may represent backswamp deposits of the former channel.

The fill of the Newman Terrace has been dated at several locations in the Kansas River valley. Near Bonner Springs, radiocarbon dates of 4290+310 years B.P. and 10, 430+130 years B.P. were determined on humic acids from paleosols at depths of 5.2 m and 8.8 below the terrace surface, respectively (Holien 1982). Subsequently, William Johnson (personal communication) has dated two other buried soils at the Bonner Springs location: 8940 and 1210 B.P. A radiocarbon date of 7250±110

years B.P. was determined on humic acids from a paleosol 3.65 m below the surface near Junction City, Kansas (Bowman 1985). At the Resco Site (14LV1046) on Stranger Creek, wood from fill beneath the Newman surface yielded a date of 4260 ± 55 years B.P. (Logan 1985). Based on these dates, sediments of the Newman Terrace appear to have aggraded from late Wisconsinan through late Holocene time.

During the late Holocene, another episode of degradation and alluviation produced the Holliday Terrace Complex. This terrace is about 2 m above the modern floodplain of the Kansas River and is separated from it by a small natural levee (McCrae 1954). A complex pattern of meander scrolls and abandoned channels which have a surface relief of up to 3 m is present on the terrace surface (Holien 1982:76). The alluvium consists of sand and silt with fine-grained silts and clays accumulating in abandoned meander scrolls and channels. The Holliday fill has yielded radiocarbon dates of ca. 2620, 2395, and 1670 years B.P. (Johnson 1985).

The modern floodplain is the surface which lies at a lower elevation than the Holliday Terrace Complex. It is characterized by channel scars that exhibit subtle relief. The floodplain sediments are generally coarser than the alluvium underlying upper portions of the terraces, and consists of coarse sands, silts, and occasional sand lenses (Holien 1982). Lateral migration of the Delaware River has removed the Holliday Terrace Complex at most places in the river valley and, as a result, the modern floodplain is often adjacent to the Newman Terrace. The absolute age of the floodplain fill is not known, but it is suspected to be less than 3,000 years old (Bowman 1985).

In summary, there are four alluvial terraces in the lower Kansas River drainage net: the Menoken Terrace, the Buck Creek Terrace, the Newman Terrace, and the Holliday Terrace Complex. Of these four terraces, the Buck Creek and Newman are located in the project area. The Buck Creek Terrace is 11 m above the modern floodplain, and it is composed of Pre-Illinoian sediments. The Newman Terrace is about 3 m above the floodplain, and its fill appears to be late Wisconsinan to late Holocene in age. Several buried paleosols occur in the Newman Terrace, indicating previous episodes of landscape stability. There is also a modern floodplain that consists of late Holocene and recent alluvium.

Soil Associations of the Major Terraces

A recent study by Sorenson and others (1986) demonstrated that relationships exist between soils and landscapes in the lower Kansas River drainage system, including the Delaware River valley. Information from their study was combined with the Soil Survey of Jefferson County, Kansas (Dickey et al. 1977) to produce a terrain map of the project area. The following discussion clarifies the soil-landscape relationships observed in the alluvial valley of the Delaware River near Perry Lake.

The principal soil on the modern floodplain is the Kennebec silt loam. The Kennebec soil is a fine-silty Cumulic Hapludoll formed in overbank depsoits. It is characterized by a weakly developed A/C soil profile.

Principal soils on the low Newman terrace are the Reading and Wabash series. The Reading soil is a fine-silty mixed Typic Argiudoll formed in silty alluvium probably derived from natural levee deposits. The Wabash soil is a fine, montmorillonitic Vertic Haplaguoll formed in clayey alluvium of backswamp deposits. Both the Reading and Wabash soils have well developed B horizons.

Principal soils on the high Pleistocene terraces (Buck Creek and Menoken) are the Gymer and Haig series. The Gymer soil is a fine, montmorillonitic Typic Arguidoll and is generally considered to have formed in Loveland (Illinoian) loess overlying alluvium. The Haig soil is a fine, montmorillonitic Typic Argiaquoll formed in Peorian (Wisconsinian) loess overlying alluvium. In some cases the Gymer soil is buried beneath Haig on the Buck Creek Terrace. In other cases the Gymer soil occurs on the surfaces of the Buck Creek and Menoken terraces. The question of ages of similar soils on surfaces and in deposits presumed to be of different ages remains to be answered. Clearly the presence of the glacial sediments in the Menoken deposits and the position of the Menoken surfaces, argue for greater antiquity for the Menoken Terrace than the Buck Creek Terrace (Sorenson et al. 1986). Still the soils often include the same series on these surfaces, suggesting that the soils are considerably younger than the Menoken alluvium and maybe even much younger than the Buck Creek deposits.

Along transects from the modern floodplain of the Delaware River to the adjacent upland, as one might expect, the major trend in soil development is one of increasingly strong soil development as a function of time. The older soils at successively higher positions in the landscape generally have redder colors and greater B horizon development than the younger ones. This developmental trend is interrupted by some soils that apparently do not fit the pattern described. Loess, colluvium and younger alluvium have accumulated on Newman, Buck Creek, and Menoken surfaces, and soils that are out of phase with the terrace chronology have developed on each of these surfaces. In other instances loess, alluvium, or colluvium bury older soils resulting in bisequal soils or welded paleosols that mask expected trends in soil development across valley transects.

There are still a number of questions pertaining to the evolution and chronology of the existing terrace sequence in the lower Delaware River valley. We have made a first approximation at identifying some of the soil-geomorphic interactions that may be responsible for the complexity we see in the landscape of the project area.

III. PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS AT PERRY LAKE

Larry J. Schmits and John M. Parisi

An initial step in the formulation of the research design for the Perry Lake survey and evaluation project consisted of a background and literature search. A site files search was conducted at the Kansas State Historical Society (KSHS) to determine the number of previously recorded archaeological properties present in the project area. Literature sources included published and unpublished reports on prior cultural resource investigations conducted in the area, local and regional histories, the preliminary cultural resources management plan for Perry Lake, the National Register of Historic Places and the state register. The objectives of this review were to identify the known archaeological sites and to determine the overall intensity of the prehistoric and historic occupation of the project area, especially within the proposed survey areas.

Professional archaeological investigations within the Perry Lake area were initiated by Thomas A. Witty, Jr. of the Kansas State Historical Society in 1962 and 1963 (Witty 1964). He identified a total of 35 archaeological sites of which 33 were within the Perry Lake project area. His survey included interviews with local collectors, especially Milton Reichart of Valley Falls and the late Mason Brunton of Perry. Sites included an isolated surface find of a Plainview point and Plains Woodland and Plains Village habitation sites. Witty recommended ten sites for extensive excavation, 16 for testing and three for re-examination. Six sites were found to warrant no further work.

Following the initial survey by Witty, the Kansas State Historical Society conducted two seasons of archaeological excavation in 1965 and 1967. These excavations were conducted in the northern part of the Perry Lake project area under contractual arrangements with the National Park Service. Four sites (14JF303, 14JF328, 14JF319 and 14JF312) were excavated in 1965 by the Kansas State Historical Society. A detailed report on these investigations was published in 1983 by the Kansas State Historical Society (Witty 1983).

The Keen site (14JF303) is principally a Pomona occupation, although evidence of a Grasshopper Falls phase Woodland occupation and possible evidence of an El Dorado phase Archaic occupation are also present (Witty 1983). The Pomona component was intensively investigated and contained evidence of two structures constructed of pole frames with clay plastering and grass thatch. House 1 was an oval arrangement of posts supporting a roof. House 2 appears to have been an A-frame dwelling. Ceramics from the site include Pomona ware, Platte Valley ware and Grasshopper Falls ware with Pomona ware predominating. Projectile points included small triangular forms and a number of larger dart points. Two radiocarbon dates obtained from the site are A.D. 1400 ± 110 and A.D. 1600 ± 80 , although Witty considers these dates to be

too recent and suggests that the site dates to A.D. 900-1200. There is evidence that the Mississippian Platte Valley ware ceramics were made at the site rather than being trade goods. However, Witty suggests that the Pomona occupants of Keen were in social contact with Mississippian Steed-Kisker populations to the east.

The Kroll site (14JF328) is a Pomona occupation located along Walnut Creek approximately .5 km south of the Keen site (Witty 1983). Its principal habitational features were two habitational structures. Ceramics from the site are mainly Pomona ware with a small number of Grasshopper Falls phase ceramics also being present. Witty suggested that Keen and Knoll may have been contemporaneous and that the two sites may represent an extended community.

The Nettye Busby site (14JF319) was a relatively large site as evidenced by surface debris. Excavations at the site by Witty (1983) uncovered a large number of post molds and two small pits along with clay daub indicating that some form of structure was present. Historic use of the site as a cemetery with large intrusive graves had disturbed the aboriginal cultural level. The artifact yield from the site was relatively small. The ceramics are almost exclusively Grasshopper Falls ware. 14JF319 appears to have been a special use area for Grasshopper Falls phase peoples with the collection of mussel shells from the nearby Delaware River channel being one such obvious activity. Several sherds representing a Pomona component were also recovered along with a few plain triangular points.

The Melon Patch site (14JF312) is four miles north of the Nettye Busby site on a prominent upland ridge overlooking the valley. Like the other sites investigated in 1965, it was multicomponent with Kansas City Hopewell, Grasshopper Falls phase, Woodland and Pomona focus occupations being present. The principal occupation appears to have occurred during the Grasshopper Falls phase. Deep plowing of the Melon Patch site destroyed any stratigraphy that might have been present (Witty 1983).

Results of the Kansas State Historical Society's 1967 excavations were reported by John Reynolds of the Kansas State Historical Society (Reynolds 1978) to the National Park Service. This report detailed the results of excavation at sites 14JF307, 14JF331 and 14JF333. This work formed the basis for definition of the Plains Woodland Grasshopper Falls phase. The data suggest that the Grasshopper Falls phase was characterized by a sedentary life style but with little dependence on agriculture for subsistence. The major traits which constitute this phase include coarsely tempered plain surfaced ceramics; projectile points similar to the Snyders and Scallorn point types; and chipped-stone artifacts including celts, drills, gouges and thin bifaces. The settlement pattern was characterized by small isolated clusters of nuclear households or individual family households occupying terraces adjacent to secondary drainages. Habitational structures included small oval houses constructed of daub, twigs, and grass placed over a framework of light poles with exterior hearths (Reynolds 1979). A single radiocarbon date of A.D. 760±90 years from site 14JF331 is the only date available, although Reynolds (1979:9) tentatively dates this phase from A.D. 300 to 1200.

Archaeological investigations within the southern portion of the lake area, concentrating along Big Slough and Evans Creeks, were conducted by the University of Kansas in 1965 under funding provided by the National Park Service (Jones 1968). The investigations included surface collections and minor tests at a number of small sites, while excavation was carried out at a few of the more promising sites. The ceramics recovered included a previously unreported Woodland variety with a brushed surface finish. The report of this work includes descriptions and frequencies of ceramic types on a site-by-site basis. A seriation in the report attempted to chronologically arrange several of the sites. Other artifacts from the sites were then classified and tabulated to determine whether those changes correlated with the changes in the ceramic seriation. Almost all of the sites which produced sufficient diagnostic artifacts appeared to be Plains Woodland sites.

Also in 1965, three mounds were excavated by Dick McWilliams of the Smithsonian River Basin Surveys (Bass, McWilliams and Jones 1967). These sites (14JF22, 14JF26 and 14JF337) were located on a bluff at the western edge of Perry Dam. Two of the mounds (14JF22 and 14JF26) had been extensively potted and revealed no cultural material upon excavation. A charred bone, possibly human, was recovered from the back dirt of 14JF26.

Site 14JF337 was the only undisturbed mound investigated. Excavation revealed the presence of a human burial beneath a mantle of limestone cobbles and soil. Although the cultural affiliation of the site was undetermined, the site contained significant mortuary data. A primary flexed burial which appears to have been placed on the ground surface was present. Small limestone cobbles were heaped over the individual. Brush was placed on this cairn and burned. The primary burial displayed no evidence of burning although the surrounding soil was burned. The body of a second individual was apparently added to the fire and partially cremated. The interment was then covered over with larger stones intermingled with bison bones, suggesting that this animal had some significance in the mortuary rites (Bass, McWilliams and Jones 1967:5).

During 1972 and 1973, an archaeological survey was conducted along Cedar Creek on the western shore of Perry Lake at Valley Falls by Milton Reichart, an amateur archaeologist accredited by the Kansas State Historical Society. He located 42 sites (Reichart 1976). All of those where a cultural affiliation could be determined appeared to have Grasshopper Falls phase components, although one site (14JF35) had evidence of a Plains Village component. Reichart's recommendations included the excavation of eleven sites which he believed had intact subsurface features, testing of 17 sites and no further work at 14 sites.

Other reports by Reichart include a Plainview Paleo-Indian projectile point found on a gravel bar in the Perry Lake project area (Reichart 1972). Reichart (1984) also reported the recovery of a deeply buried Munkers Creek knife from a cutbank of the Delaware River about 300 m upstream from 14JF366 in the upper reaches of the project area. The implement was recovered from over 4 m below the surface. This find

appears to be isolated, although it may be related to 14JF366 which is also a buried site eroding out of a cutbank. While the significance of this discovery has not been thoroughly assessed, it does indicate the presence of a Late Archaic Munkers Creek or Black Vermillion phase occupation in the Perry Lake area. Reichart (1974, 1985) has also reported two Meserve (Dalton) points recovered to the north of the project area on a gravel bar of the Delaware River. These finds indicate an occupation in the vicinity during the late Paleo-Indian or Early Archaic periods.

An archaeological field reconnaissance was conducted along the right-of-way of two road improvements for Perry Lake in May of 1976 by Bruce Jones of the Kansas State Historical Society (Jones 1976). Road No. 1 was located immediately southeast of Perry Lake and extended from U.S. Highway 24 north to the eastern end of the dam. Though one previously unrecorded site was identified and designated as 14JF357, no adverse impact was determined and no additional archaeological investigations were thought to be warranted. Road No. 2 was located along the western side of Perry Lake and extended from the northern side of the Rock Creek valley north and northwest to Highway 92. Field reconnaissance, including coring, did not locate significant cultural remains in or adjacent to the project right-of-way.

In 1977, the U.S. Army Corps of Engineers funded a Preliminary Management Plan for Cultural Resources at Perry Lake (Iroquois Research Institute 1977). This work provided an inventory of all previously known sites in the project area, summarized previous cultural resources studies in the project area, conducted a preliminary examination of archival records, compiled a history of the project area and inspected 12 percent of the documented archaeological sites in the project area.

The management plan included recommendations for known sites, completion of a cultural resources inventory at the Perry Lake project and plans for long term management and public interpretive development. The recommended inventory work included a complete shoreline survey of the 110 mile perimeter of the lake, along with an inventory of areas of the project where the previous inventory appeared to be incomplete.

The first step in implementing these recommendations consisted of the 1979 sample shoreline survey conducted by the Kansas State Historical Society (Witty 1982). This survey consisted of an inventory of 20 miles of the shoreline. Ten previously unrecorded sites were identified and four previously recorded sites were located. Eleven of these sites were determined to be Grasshopper Falls phase sites. One site (14JF366) appeared to include Grasshopper Falls phase Plains Woodland and Plains Village (probable Nebraska phase) components. All of the sites were extremely damaged by shoreline erosion. Testing was recommended for two sites, a resurvey was recommended for one site and no further work was recommended at 10 sites.

Prior to the 1985 investigations, 192 sites had been recorded. Milton Reichart recorded one additional site in January of 1986 bringing the total of previously known sites at Perry Lake to 193. Table 2 provides the cultural affiliation, level of investigation, cultural

period and soil series for the previously located sites. Site forms provided the basic locational information used to plot the sites on the appropriate U.S.G.S topographic maps. Site locations were subsequently transferred to soils maps to identify the soil series on which the sites were located.

The cultural affiliations listed in Table 2 are based on information recorded on the site forms, as well as the reports and publications of prior archaeological research at Perry Lake (Bass, McWilliams and Jones 1967; Iroquois Research Institute 1977; Jones 1968, 1976, 1978; Reichart 1972, 1973, 1976, 1984, 1985; Reynolds 1978, 1979; Witty 1964, 1982, 1983). Various taxonomic schemes have been used by different workers at Perry Lake and the cultural affiliations have been revised into a series of cultural periods defined elsewhere (Schmits 1984). These cultural periods include Paleo-Indian, Plains Archaic, Plains Woodland, Plains Village, Protohistoric, Historic Aboriginal and Historic Euroamerican. These cultural periods correspond to the units listed on the site forms or in the various reports in the following fashion: Plains Archaic (Archaic, Munkers Creek), Plains Woodland (Woodland, Grasshopper Falls, Middle Woodland, Early Ceramic) Plains Village (Central Plains, Upper Republican, Middle Ceramic) Historic Aboriginal (Indian Village) and Historic Euroamerican (Historic).

Sites with questionable cultural affiliations have been included within the category of "Unknown Prehistoric". Where possible, descriptions or illustrations of diagnostic artifacts provided on the site forms were used to assign sites to a more specific or different cultural-historical period. For example, 14JF21 was recorded as a possible Plains Village occupation on the site form, however the recovery of cordmarked, grit tempered ceramics indicates a Plains Woodland cultural affiliation for the site.

The Jefferson County soil survey was then used to determine the geomorphic terrain type on which each site is located based on the correlations between soil series and geomorphic surface discussed by Mandel (this volume)(Figure 2). The terrain within the project area has been subdivided into upland and lowland landforms. The uplands are represented by the Gymer, Martin, Morrill, Oska, Pawnee, Shelby, Sibleyville, Sogn and Vinland soils and the lowlands by Kennebec, Reading and Wabash soils, as well as by the areas inundated by the multipurpose pool of Perry Lake. Table 3 lists the distribution of cultural components by their occurrence on upland or lowland terrain. A total of 213 components have been recorded including nine Plains Archaic (4.2 percent), 111 Plains Woodland (52.1 percent), 20 Plains Village (9.4 percent), one Historic Aboriginal (0.5 percent), seven Historic Euroamerican (3.3 percent) and 65 Unknown Prehistoric (30.5 percent).

Although Witty (1982) and Reichart (1972, 1974, 1985) have recorded the presence of Paleo-Indian and Meserve points from gravel bars along the Delaware River, no specific Paleo-Indian sites have been recorded in the project area. The Plains Archaic period is represented by nine components including four located on lowland terrain and five on upland terrain. The 111 Plains Woodland components include 58 on the uplands and 53 on the lowlands. Fifteen of the Plains Village components are

Table 2. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF3	Woodland?	Jones 1968	Survey	Unknown Prehistoric	Gymer
14JF4	Woodland	Jones 1968	Tested	Plains Woodland	Unknown
14JF5	Woodland, Archaic?	Witty 1964	Survey	Plains Woodland	Morrill
14JF6	Woodland	Jones 1968	Survey	Plains Woodland	Unknown
14JF7	Woodland	Jones 1968	Survey	Plains Woodland	Unknown
14JF8	Woodland	KSHS 1964	Survey	Plains Woodland	Morrill
14JF9	Unknown	Jones 1968	Tested	Unknown Prehistoric	Unknown
14JF10	Woodland?, Archaic?	KSHS 1964	Survey	Unknown Prehistoric	Unknown
14JF11	Woodland	Jones 1968	Tested	Plains Woodland	Unknown
14JF12	Ceramic	Jones 1968	Survey	Plains Woodland	Kennebec
14JF13	Unknown	KSHS 1965, 1980	Survey	Unknown Prehistoric	Kennebec
14JF14	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Kennebec
14JF15	Central Plains phase	Jones 1968	Survey	Plains Village	Unknown
14JF16	Central Plains phase, Woodland, Archaic?	Jones 1968	Survey	Plains Village, Plains Woodland	Unknown
14JF17	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Martin- Oska
14JF18	Unknown	Jones 1968	Survey	Unknown Prehistoric	Vinland
14JF19	Woodland	Jones 1968	Excavated	Plains Woodland	Unknown
14JF20	Woodland	Jones 1968	Survey	Plains Woodland	Unknown
14JF21	Central Plains phase?	Jones 1968	Tested	Plains Woodland	Unknown

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF22	Unknown	Bass, McWilliams & Jones 1967	Excavated	Unknown Prehistoric	Vinland
14JF23	Central Plains phase?, Woodland	Jones 1968	Survey	Plains Woodland	Unknown
14JF24	Central Plains phase?	Jones 1968	Survey	Unknown Prehistoric	Unknown
14JF25	Historic (Log Cabin)	KSHS 1965	Survey	Historic Euroamerican	Vinland
14JF26	Unknown	Bass, McWilliams & Jones 1967	Tested	Unknown Prehistoric	Martin
14JF30	Unknown	Jones 1968	Survey	Unknown Prehistoric	Kennebec
14JF32	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Unknown
14JF33	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Unknown
14JF34/ 446	Grasshopper Falls phase	Witty 1982	Survey	Plains Woodland	Martin
14JF35	Woodland, Plains Village	Jones 1968, Reichart 1976	Survey	Plains Woodland, Plains Village	Martin
14JF36	Woodland	KSHS 1965	Survey	Plains Woodland	Martin
14JF37	Grasshopper Falls phase	Jones 1968, Witty 1982	Survey	Plains Woodland	Gymer
14JF38	Central Plains phase?, Woodland	Jones 1968	Survey	Plains Woodland	Martin
14JF39	Woodland	Jones 1968	Survey	Plains Woodland	Kennebec
14JF40	Woodland	Jones 1968	Survey	Plains Woodland	Unknown
14JF41	Woodland?	Jones 1968	Survey	Unknown Prehistoric	Unknown
14JF42	Unknown	Jones 1968	Survey	Unknown Prehistoric	Unknown

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF43	Unknown	Jones 1968	Survey	Unknown Prehistoric	Martin
14JF44	Woodland?, Archaic?	Jones 1968	Tested	Unknown Prehistoric	Martin
14JF46	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Martin
14JF48	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Unknown
14JF49	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Unknown
14JF50	Woodland	Jones 1968	Survey	Plains Woodland	Reading
14JF51	Central Plains phase, Woodland	Jones 1968	Survey	Plains Village, Plains Woodland	Unknown
14JF52	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Unknown
14JF53	Woodland	Jones 1968	Survey	Plains Woodland	Unknown
14JF54	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Wabash
14JF55	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Reading
14JF56	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Wabash
14JF57	Ceramic	Jones 1968	Survey	Plains Woodland	Gymer
14JF58	Woodland	Jones 1968	Tested	Plains Woodland	Unknown
14JF59	Woodland	KSHS 1965	Survey	Unknown Prehistoric	Unknown
14JF60	Woodland?	Jones 1968	Survey	Unknown Prehistoric	Sogn-Vinland
14JF61	Unknown	KSHS 1965	Survey	Unknown Prehistoric	Unknown
14JF62	Woodland	Jones 1968	Survey	Plains Woodland	Martin
14JF63	Woodland	KSHS 1965	Survey	Plains Woodland	Kennebec
14JF64/ 327	Woodland?	Jones 1968	Tested	Unknown Prehistoric	Kennebec

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF65	Archaic?, Central Plains phase	Jones 1968	Survey	Plains Village	Unknown
14JF66	Unknown	KSHS 1966	Survey	Unknown Prehistoric	Kennebec
14JF67	Unknown	KSHS 1966	Survey	Unknown Prehistoric	Kennebec
14JF69	Woodland	KSHS 1967	Survey	Plains Woodland	Unknown
14JF70	Unknown	KSHS 1967	Survey	Unknown Prehistoric	Shelby-Pawnee
14JF302	Ceramic	Witty 1964	Survey	Plains Woodland	Unknown
14JF303	Pomona, Woodland, Archaic	Witty 1964, 1983	Excavated	Plains Village, Plains Woodland, Plains Archaic	Oska
14JF304	Central Plains phase, Woodland	Witty 1964	Survey	Plains Village, Plains Woodland	Kennebec
14JF305	Plains Woodland	Witty 1964	Survey	Plains Woodland	Kennebec
14JF306	Middle Ceramic	Witty 1964	Survey	Plains Village	Kennebec
14JF307	Pomona, Grasshopper Falls phase	Reynolds 1979, Witty 1964, 1983	Excavated	Plains Village, Plains Woodland	Kennebec
14JF309	Woodland?, Late Archaic?	Witty 1964	Survey	Unknown Prehistoric	Martin
14JF310	Woodland	Witty 1964, Jones 1968	Survey	Plains Woodland	Martin
14JF311	Unknown	Witty 1964	Survey	Unknown Prehistoric	Unknown
14JF312	Pomona, Grasshopper Falls phase, Kansas City Hopewell	Witty 1964, 1983	Excavated	Plains Village, Plains Woodland	Morrill

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF313	Woodland	Witty 1964	Survey	Plains Woodland	Unknown
14JF314	Unknown	Witty 1964	Survey	Unknown Prehistoric	Vinland
14JF316	Woodland?, Late Archaic	Witty 1964	Survey	Unknown Prehistoric	Martin
14JF317	Unknown	Witty 1964	Survey	Unknown Prehistoric	Kennebec
14JF318	Woodland?	Witty 1964, Jones 1968	Tested	Unknown Prehistoric	Kennebec
14JF319	Historic, Pomona, Grasshopper Falls phase	Witty 1964, 1983	Excavated	Historic Euroamerican, Unknown Plains Village, Plains Woodland	
14JF320	Grasshopper Falls phase	Witty 1982	Survey	Plains Woodland	Vinland
14JF321	Woodland	Witty 1964	Survey	Plains Woodland	Vinland
14JF322	Plains Woodland	Witty 1964	Survey	Plains Woodland	Kennebec
14JF323	Grasshopper Falls phase	Witty 1964, KSHS 1982	Survey	Plains Woodland	Pawnee
14JF324	Early Ceramic	Witty 1964	Survey	Plains Woodland	Kennebec
14JF325	Plains Woodland	Witty 1964, KSHS 1973	Excavated	Plains Woodland	Unknown
14JF326	Central Plains phase	Witty 1964	Survey	Plains Village	Vinland
14JF328	Pomona, Woodland	Witty 1964, 1983	Excavated	Plains Village, Plains Woodland	Reading
14JF329	Central Plains phase	Witty 1964, 1982	Survey	Plains Village	Kennebec
14JF330	Early Ceramic	Witty 1964	Survey	Plains Woodland	Kennebec

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF331	Grasshopper Falls phase	Witty 1964, 1982 Reynolds 1979	Excavated	Plains Woodland	Kennebec
14JF332	Plains Woodland	Witty 1964	Survey	Plains Woodland	Kennebec
14JF333	Grasshopper Falls phase	Witty 1964, Reynolds 1979	Excavated	Plains Woodland	Kennebec
14JF334	Plains Woodland	Witty 1964	Survey	Plains Woodland	Kennebec
14JF335	Early Ceramic	KSHS 1963, Witty 1964	Survey	Plains Woodland	Kennebec
14JF336	Unknown	Witty 1964, Reichart 1984	Survey	Unknown Prehistoric	Kennebec
14JF337	Unknown	Witty 1964, Bass, McWilliams & Jones 1967	Excavated	Unknown Prehistoric	Pawnee
14JF338	Woodland	KSHS 1967	Survey	Plains Woodland	Reading
14JF339	Middle Woodland	KSHS 1967	Survey	Plains Woodland	Kennebec
14JF340	Unknown	KSHS 1967	Tested	Unknown Prehistoric	Kennebec
14JF342	Woodland	KSHS 1968	Survey	Plains Woodland	Kennebec
14JF343	Middle Woodland	KSHS 1969	Survey	Plains Woodland	Vinland
14JF344	Woodland, Archaic?	KSHS 1969	Survey	Plains Woodland	Vinland
14JF345	Archaic?	KSHS 1969	Survey	Unknown Prehistoric	Kennebec
14JF346	Middle Woodland	KSHS 1969	Survey	Plains Woodland	Kennebec
14JF347	Archaic?	KSHS 1969	Survey	Plains Archaic	Kennebec

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF348	Woodland	KSHS 1971	Survey	Plains Woodland	Kennebec
14JF349	Historic, Woodland	KSHS 1971	Tested	Historic Euroamerican, Kennebec Plains Woodland	
14JF358	Unknown	Witty 1982	Survey	Unknown Prehistoric	Pawnee
14JF359	Unknown	Witty 1982	Survey	Unknown Prehistoric	Pawnee
14JF360	Grasshopper Falls phase	Witty 1982	Survey	Plains Woodland	Vinland
14JF361	Grasshopper Falls phase	Witty 1982	Tested	Plains Woodland	Vinland
14JF362	Grasshopper Falls phase	Witty 1982	Tested	Plains Woodland	Vinland
14JF363	Grasshopper Falls phase	Witty 1982	Survey	Plains Woodland	Martin
14JF364	Grasshopper Falls phase	Witty 1982	Survey	Plains Woodland	Vinland
14JF365	Grasshopper Falls phase	Witty 1982	Survey	Plains Woodland	Vinland
14JF366	Grasshopper Falls phase, Middle Ceramic	Witty 1982	Tested	Plains Woodland, Plains Village	Vinland
14JF367	"Indian Village"	Witty 1982	Survey	Historic Aboriginal	Kennebec
14JF369	Unknown	KSHS 1980	Survey	Unknown Prehistoric	Kennebec
14JF370	Unknown	KSHS 1980	Survey	Unknown Prehistoric	Vinland
14JF371	Unknown	KSHS 1980	Survey	Unknown Prehistoric	Vinland
14JF401	Archaic?, Woodland	KSHS 1976	Survey	Plains Woodland	Wabash
14JF405	Plains Woodland	KSHS 1976	Survey	Plains Woodland	Reading

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF406	Plains Woodland	KSHS 1971	Survey	Plains Woodland	Kennebec
14JF407	Pomona	KSHS 1976	Tested	Plains Village	Kennebec
14JF408	Plains Woodland	KSHS 1971	Survey	Plains Woodland	Shelby-Pawnee
14JF409	Archaic	KSHS 1971	Survey	Plains Archaic	Kennebec
14JF410	Plains Woodland	KSHS 1971	Survey	Plains Woodland	Kennebec
14JF411	Plains Woodland	KSHS 1971	Survey	Plains Woodland	Martin
14JF412	Plains Woodland	KSHS 1971	Survey	Plains Woodland	Kennebec
14JF413	Unknown	KSHS 1971	Survey	Unknown Prehistoric	Kennebec
14JF414	Historic, Late Archaic	KSHS 1971, Witty 1982	Survey	Historic Euroamerican, Pawnee Plains Archaic	
14JF415	Plains Woodland?	KSHS 1971	Survey	Unknown Prehistoric	Shelby-Pawnee
14JF416	Plains Woodland	KSHS 1971	Survey	Plains Woodland	Kennebec
14JF417	Woodland	KSHS 1971	Survey	Plains Woodland	Keading
14JF418	Unknown	KSHS 1971	Survey	Unknown Prehistoric	Pawnee
14JF419	Unknown	KSHS 1971	Survey	Unknown Prehistoric	Gymer
14JF420	Plains Woodland	KSHS 1973	Tested	Plains Woodland	Martin
14JF421	Pomona?, Woodland	KSHS 1973	Tested	Plains Woodland	Pawnee
14JF422	Plains Woodland	KSHS 1973	Survey	Plains Woodland	Kennebec

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14.JF423	Central Plains phase	KSHS 1973	Tested	Plains Village	Kennebec
14.JF424	Unknown	KSHS 1973	Survey	Unknown Prehistoric	Kennebec
14.JF425	Unknown	KSHS 1973, 1979	Tested	Unknown Prehistoric	Kennebec
14.JF426	Upper Republican	KSHS 1973	Tested	Plains Village	Kennebec
14.JF427	Archaic	KSHS 1974	Tested	Plains Archaic	Shelby-Pawnee
14.JF428	Unknown	KSHS 1973	Survey	Unknown Prehistoric	Wabash
14.JF429	Plains Village?	KSHS 1973	Tested	Unknown Prehistoric	Kennebec
14.JF430	Late Archaic or Woodland?	KSHS 1973	Survey	Unknown Prehistoric	Shelby-Pawnee
14.JF436	Plains Woodland	KSHS 1973	Survey	Plains Woodland	Sogn-Vinland
14.JF437	Woodland	KSHS 1973	Survey	Plains Woodland	Sogn-Vinland
14.JF447	Archaic, Plains Woodland	KSHS 1974	Survey	Plains Archaic, Plains Woodland	Gymer
14.JF448	Plains Woodland	KSHS 1974	Tested	Plains Woodland	Vinland
14.JF449	Plains Woodland	KSHS 1974	Tested	Plains Woodland	Martin
14.JF451	Grasshopper Falls phase?	KSHS 1974	Survey	Plains Woodland	Gymer
14.JF451	Plains Woodland	KSHS 1974	Survey	Plains Woodland	Vinland

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14.JF452	Plains Woodland	KSHS 1974	Survey	Plains Woodland	Vinland
14.JF453	Grasshopper Falls phase	Witty 1982	Survey	Plains Woodland	Martin
14.JF454	Archaic?	KSHS 1974	Survey	Unknown Prehistoric	Shelby-Pawnee
14.JF455	Plains Woodland	KSHS 1974	Survey	Plains Woodland	Vinland
14.JF456	Archaic?	KSHS 1974	Tested	Unknown Prehistoric	Kennebec
14.JF457	Woodland? Archaic?	KSHS 1975	Survey	Unknown Prehistoric	Shelby-Pawnee
14.JF458	Woodland	KSHS 1975	Survey	Plains Woodland	Gymer
14.JF459	Plains Woodland	KSHS 1975	Survey	Plains Woodland	Shelby-Pawnee
14.JF460	Woodland	KSHS 1975	Survey	Plains Woodland	Kennebec
14.JF461	Historic, Plains Woodland	KSHS 1975	Survey	Historic Euroamerican, Martin Plains Woodland	
14.JF462	Plains Woodland	KSHS 1974	Survey	Plains Woodland	Vinland
14.JF463	Central Plains phase, Plains Woodland	KSHS 1976	Survey	Plains Village, Plains Woodland	Kennebec
14.JF464	Grasshopper Falls phase?	KSHS 1976	Survey	Plains Woodland	Gymer
14.JF465	Grasshopper Falls phase?	KSHS 1976	Survey	Plains Woodland	Vinland
14.JF466	Grasshopper Falls phase?	KSHS 1976	Survey	Plains Woodland	Vinland

continued

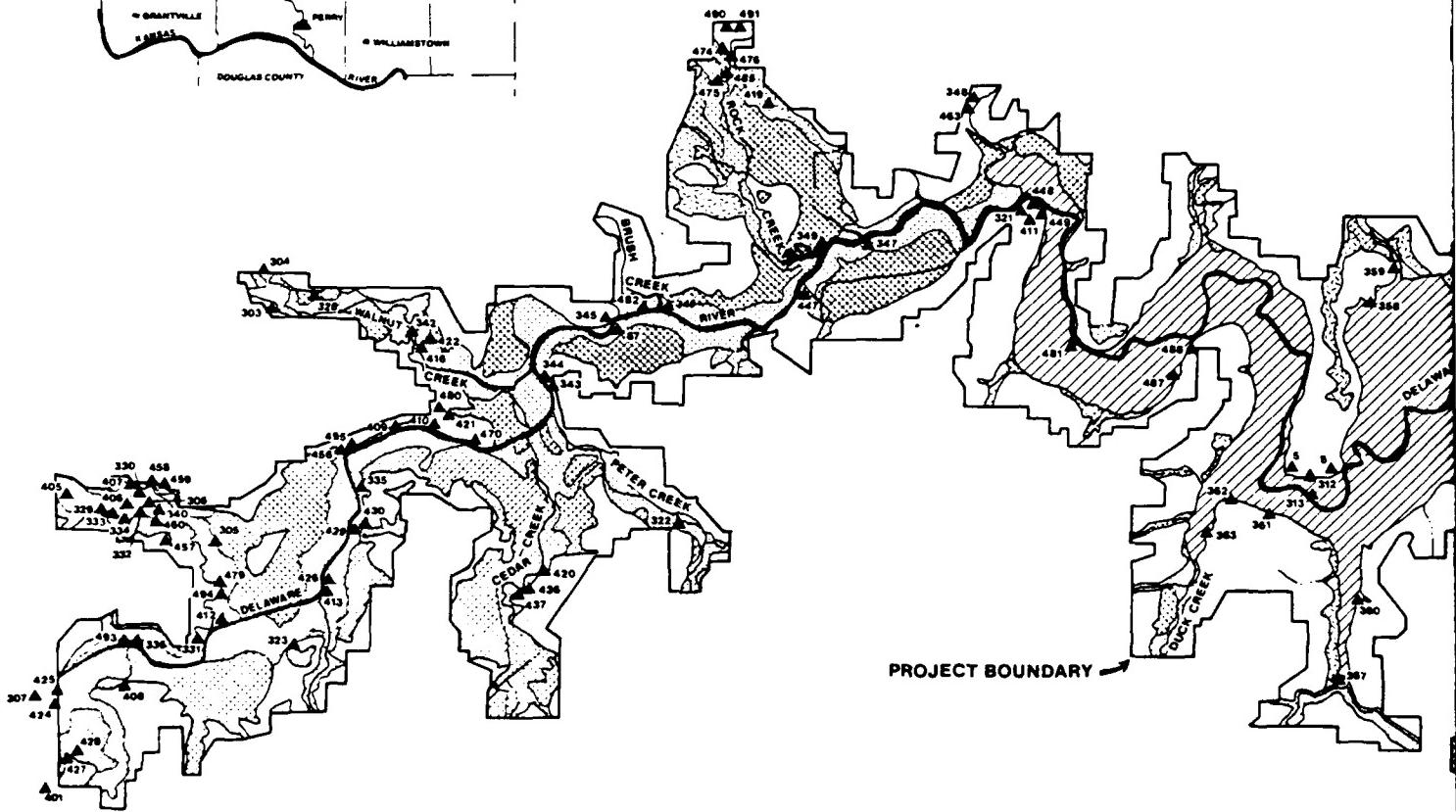
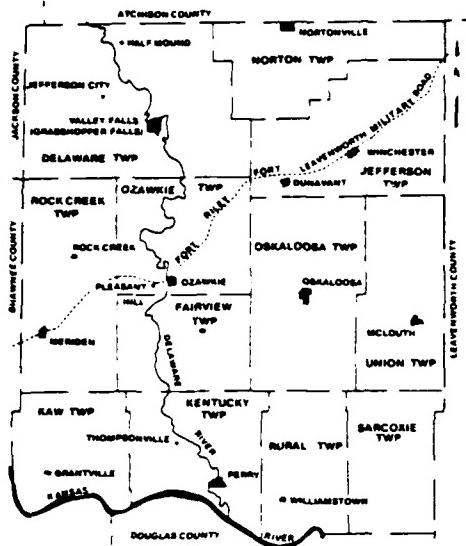
Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF467	Grasshopper Falls phase?	KSHS 1976	Survey	Plains Woodland	Kennebec
14JF468	Grasshopper Falls phase	KSHS 1976	Survey	Plains Woodland	Vinland
14JF469	Farmstead, Grasshopper Falls phase	KSHS 1976	Survey	Historic Euroamerican, Gymer Plains Woodland	
14JF470	Unknown	KSHS 1976	Survey	Unknown Prehistoric	Kennebec
14JF471	Plains Woodland	KSHS 1977	Survey	Plains Woodland	Shelby-Pawnee
14JF472	Grasshopper Falls phase	KSHS 1977	Survey	Plains Woodland	Vinland
14JF473	Farmstead, Grasshopper Falls phase	KSHS 1982	Survey	Historic Euroamerican, Gymer Plains Woodland	
14JF474	Upper Republican, Grasshopper Falls phase	KSHS 1978, 1983	Survey	Plains Village, Plains Woodland	Martin
14JF475	Unknown	KSHS 1978	Survey	Unknown Prehistoric	Kennebec
14JF476	Middle Ceramic?	KSHS 1978, 1983	Survey	Plains Village	Reading
14JF477	Plains Woodland	KSHS 1978	Survey	Plains Woodland	Gymer
14JF479	Archaic?	KSHS 1978	Survey	Unknown Prehistoric	Pawnee
14JF480	Woodland	KSHS 1978	Survey	Plains Woodland	Shelby-Pawnee
14JF481	Unknown	KSHS 1979	Survey	Unknown Prehistoric	Kennebec
14JF482	Grasshopper Falls phase, Archaic?	KSHS 1979	Survey	Plains Woodland, Plains Archaic	Kennebec

continued

Table 2 continued. Previously recorded archaeological sites at Perry Lake.

SITE NUMBER	CULTURAL AFFILIATION	REFERENCE	LEVEL OF INVESTIGATION	CULTURAL PERIOD	SOIL SERIES
14JF483	Unknown	KSHS 1979	Survey	Unknown Prehistoric	Shelby-Pawnee
14JF484	Archaic	KSHS 1979	Survey	Plains Archaic	Shelby-Pawnee
14JF485	Grasshopper Falls phase	KSHS 1979	Survey	Plains Woodland	Reading
14JF486	Grasshopper Falls phase	KSHS 1980	Survey	Plains Woodland	Vinland
14JF487	Grasshopper Falls phase	KSHS 1982	Survey	Plains Woodland	Vinland
14JF488	Grasshopper Falls phase	KSHS 1982	Tested	Plains Woodland	Vinland
14JF490	Unknown	KSHS 1983	Survey	Unknown Prehistoric	Martin
14JF491	Unknown	KSHS 1983	Survey	Unknown Prehistoric	Oska
14JF493	Munkers Creek phase	KSHS 1984	Survey	Plains Archaic	Kennebec
14JF494	Grasshopper Falls phase	KSHS 1985	Tested	Plains Woodland	Pawnee
14JF495	Grasshopper Falls phase	KSHS 1986	Survey	Plains Woodland	Vinland



▲ PREVIOUSLY LOCATED SITES

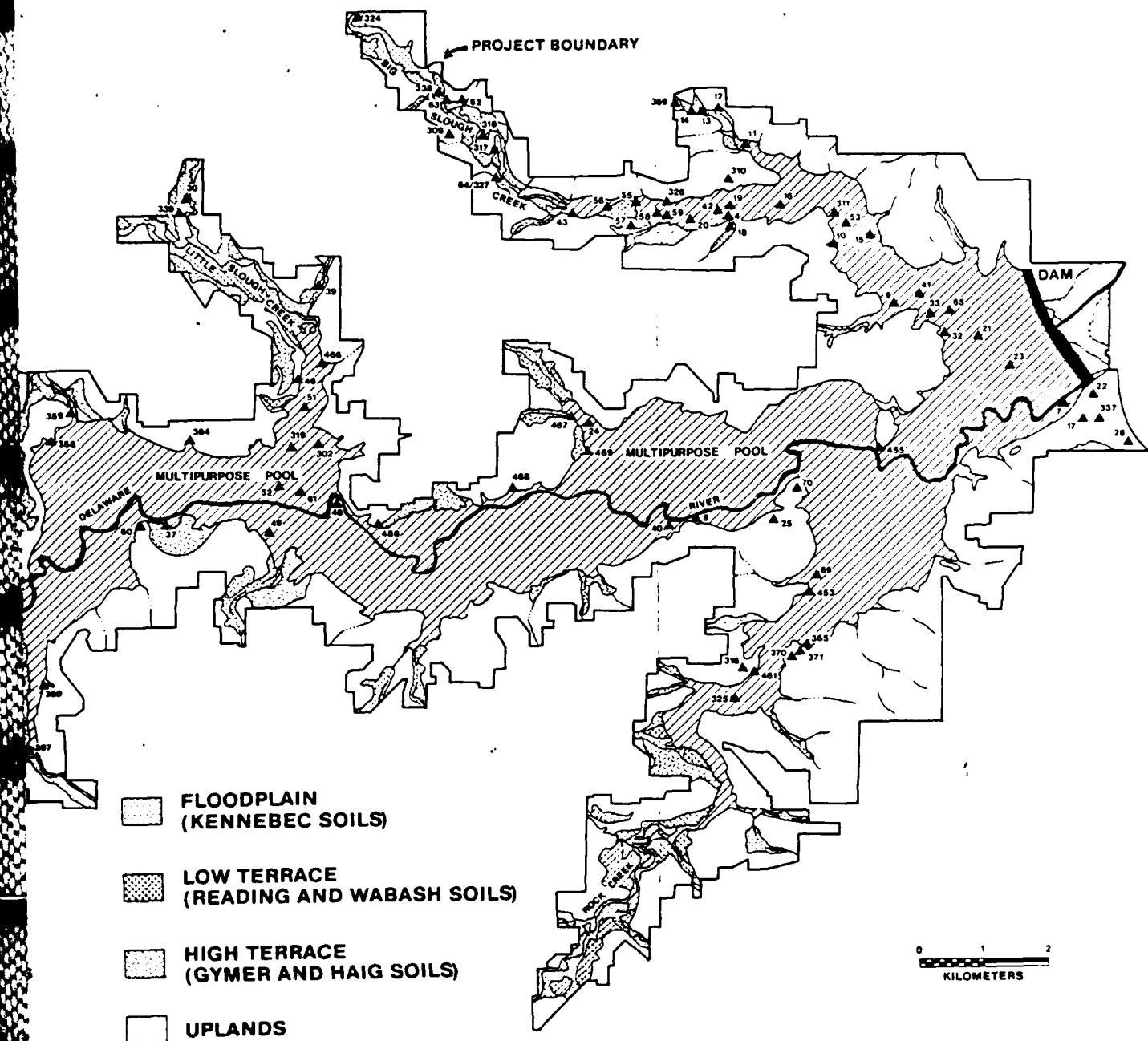


Figure 2. Location of terrain surfaces and previously located sites at Perry Lake.

located on the lowlands and five on the uplands. The single Historic Aboriginal component is a lowland site. It should be noted that this site was recorded on the basis of early survey records and was not documented in the field (Witty 1982). Two of the Historic Euroamerican components are located on the lowlands and five on the uplands. Of the 65 sites with Unknown Prehistoric occupations, 37 are situated on lowland terrain and 28 on the uplands.

Table 3. Distribution of archaeological components at Perry Lake by geomorphological terrain type.

Cultural Period	Lowland	Upland	Total	Percent
Plains Archaic	4	5	9	4.2
Plains Woodland	53	58	111	52.1
Plains Village	15	5	20	9.4
Historic Aboriginal	1	0	1	0.5
Historic Euroamerican	2	5	7	3.3
Unknown Prehistoric	37	28	65	30.5
TOTAL	112	101	213	100.0
PERCENT	52.6	47.4	100.0	

The above data indicate that overall there was a slight preference for lowland floodplain or terrace locations in the project area, since 52.6 percent of the components occur in these areas. The uplands were also utilized and account for 47.4 percent of the sample. This pattern appears to have extended throughout the prehistoric and historic periods with minor variations. A slightly higher preference for upland site locations appears to have occurred during the Plains Archaic and Plains Woodland periods than during the Historic Euroamerican period. In contrast a rather significant preference for lowland locations occurred during the Plains Village period. The Unknown Prehistoric sites show only a slightly greater preference for lowland locations. Overall, it appears that both lowland and upland locations were utilized for settlement throughout the prehistoric and historic periods in the Perry Lake area.

The inferences regarding prehistoric and historic settlement of the Perry Lake project area rely on the accuracy of the Jefferson County Soil Survey (Dickey et al. 1977). Data on site location obtained from

the site files at the KSHS indicate that the soil series mapped by the Jefferson County Soil Survey is generally a good predictor of the topographic setting, especially in the northern segments of the project area above the multipurpose pool. However, in the southern portion of the project area, particularly along the shoreline, the soils maps appear to be more generalized. Large areas mapped as Vinland or other upland soils contain smaller amounts of low terraces. It appears that the distribution of soils mapped along the eroded shoreline of Perry Lake have masked the presence of terrace remnants. Several previously recorded sites are reported in the areas. While this bias does not result in a great discrepancy, it does indicate that the number of upland sites recorded in Table 3 may be too high, and that lowland sites were more numerous than is indicated. Given the large number of sites included in the sample, this bias does not greatly alter the results of the terrain analysis.

IV. RESEARCH DESIGN

Larry J. Schmits

The Perry Lake project was needed for a variety of reasons related to the management of the lake and to the study of prehistory and history. The management needs of the lake are the most crucial of these reasons and justify the work conducted. Information on the cultural resources present in the Perry Lake project area and the importance of these resources is lacking and is needed before these resources can be adequately managed. By addressing the most threatened cultural resources located along the shoreline and in the floodpool of Perry Lake, the present work goes far to provide the systematic data necessary for the proper management of the most threatened cultural resources within this project.

Overall, the Perry Lake project was designed to satisfy the six fundamental requirements as outlined in the Scope of Work (Appendix I):

- (1) To determine the number of prehistoric and historical archaeological cultural resources present within the study area.
- (2) To define the areal and temporal extent of any inventoried cultural resources.
- (3) To establish the cultural and/or scientific importance of any inventoried cultural resources.
- (4) To determine if additional testing is needed before a determination can be made of the National Register eligibility of any inventoried cultural resources.
- (5) To determine if any potentially significant cultural resource are present among those inventoried.
- (6) To define possible alternatives for the mitigation of potential National Register sites.

These six points are concerned with providing the information needed for the effective management of the cultural resources located within the Perry Lake project area as defined in the scope of work. In addition to these management needs, there was a scientific need for more systematic information about the prehistoric and historic use of the Perry Lake area. Research that has been conducted in the vicinity in the past has been less than comprehensive, and as a result, basic questions on the nature of the prehistoric and historic settlement remain unanswered. The development of a systematic body of data about the prehistoric and historic cultural resources of the Perry Lake project provides, for the first time, the type of data that is needed to address a number of significant if general questions about northeast Kansas.

Based on the available information for Perry Lake several areas of research appeared to be important including (1) development of a geomorphological terrain analysis and a preliminary model of the terrace sequence and alluvial chronology of the Delaware River basin, (2) development of a cultural chronology for the Perry Lake area; and (3) investigation of site function and settlement-subsistence patterns along the Delaware drainage.

Prior to the Perry Lake project almost no information was available regarding the alluvial chronology of the tributaries of the Delaware River basin. Previous surveys of the Perry Lake area, however, indicate that a majority of sites are located on alluvial surfaces. Effective management of the archaeological resources requires a knowledge of Quaternary landscape evolution and the depositional processes that lead to the formation of the floodplains and terraces of the Delaware River and its tributaries. A major objective of the proposed project was to provide a preliminary outline of the alluvial chronology of the Delaware drainage and to map the terraces and geomorphic surfaces located in the project area.

There is almost no information available about the Paleo-Indian and Archaic occupations of the Perry Lake area. Diagnostic Paleo-Indian and Archaic points that have been located are almost always recovered from eroding cut banks or from gravel bars. Good examples of this in the Perry Lake area are the two Plainview points discussed by Witty which were recovered from gravel bars of the Delaware River (1982, 1983) and the Munkers Creek knife recovered from a cut bank of the Delaware River by Reichart (1984). An objective of the project was the location of Paleo-Indian and Archaic sites and a preliminary characterization of the Paleo-Indian and Archaic prehistory of the area. Although previous investigations have not been very successful in locating older sites in the Perry Lake area, it was hoped that this goal could be accomplished by an examination of landforms and sediments of the proper age.

Although a large number of Grasshopper Falls phase and four Pomona sites have been located in the Perry Lake area and a number have been intensively investigated only three radiocarbon dates are available. According to Witty (1982, 1983) 12 habitational structures have been located at eight Grasshopper Falls phase sites, however only one radiocarbon date is available from any of these sites and the chronological position of one of the more thoroughly investigated Plains Woodland complexes is uncertain. The two dates from the Pomona component at Keen are also not accepted by Witty (1983) and the chronological position of the Plains Village complex in the Perry area is inferred by cross-dating. The lack of adequate dating precludes an understanding of the relationship between these two cultural complexes or their relationship to neighboring Plains Woodland and Plains Village cultural units. An objective of the Perry Lake investigations was to obtain radiocarbon dates from Plains Woodland and Plains Village sites as well as other earlier sites located and tested during the course of the investigations.

Noticeable in the previously discussed literature is the lack of any historical archaeological resources in the project area. Knowledge

of the historical archaeological resources of Perry Lake therefore stood out as an area much in need of improvement. It was anticipated that a number of historic sites would be located by the proposed survey. Consequently, it was felt that the development of a historical setting for the Perry Lake area with which to evaluate the historic sites located was necessary.

The investigation of site function and settlement patterns was a second major objective of the proposed investigations. Settlement patterns are considered to be adaptive systems comprising a number of distinct functional or seasonal aspects each with its characteristic environmental setting and archaeological assemblage. Recent investigations of settlement location have emphasized the importance of viewing determinants of site placement in terms of the broad subsistence area commanded from a given point rather than in terms of the distinctive characteristics of the point itself (Bettinger 1980). Jochim's (1976) model holds site location to be the result of combined attraction between social groups and its individual subsistence resources, whereas other models hold locational determinants to vary according to site types (Wood 1978).

Classification of sites by cultural period according to geomorphic terrain types such as upland, floodplain, terrace, etc. establishes the site relative to major resource zones and indicates variations in site positioning such as upland or lowland positions which might reflect a focus on various resource zones or perhaps season of occupation. Brown and Vierra (1983) have suggested a tripartite settlement typology including extractive camps, residential camps and base camps. According to Brown and Vierra, extractive camps are used by only the productive members of a band for short specific tasks. They are represented by small sites with few features, primarily hearths, few tool types, and a low diversity of plant and animal remains. The spatial organization of these sites is the least complex. Residential camps contain a greater breadth in the assemblage and in the debris and features that are produced from occupation by the total residential population. A larger range of tool types, features and camp debris is present than at extractive sites, but without the predominance of tools and remains connected with specific exploitative practices or specialized resource acquisition. Residential camps are briefly occupied and activities are less likely to be separated spatially. Generalized activity areas are common. Base camps, on the other hand, leave a broad range of tools, debris and features from the occupation by the total population. The prolonged occupation at base camps results in the appearance of tools and debris indicative of specialized exploitative patterns of specific habitats. Permanent housing can be expected as well as organized disposal of trash and a more complex site layout to facilitate the organization of long-term occupation of the site.

The presence of various site types largely reflects the degree of sedentism or mobility of a particular group. The degree of sedentism is to a large extent related to the subsistence patterns. Binford has suggested two major logistical strategies employed by hunter gatherers. The first is referred to as a foraging strategy. Foragers typically do not store foods but gather foods daily. Considerable variability among

foragers is present in the size of the mobile groups as well as in the numbers of residential moves that are made in an annual cycle. According to Binford (1980) forager camps consist of residential camps and what he terms locations. These camps would be similar to Brown's (1983) residential camps and extractive camps, although Brown's extractive camps appear to be slightly more complex than Binford's locations. A good example of the forager adaptation of the !Kung is provided by Lee (1969). When a !Kung settlement is established foraging is concentrated on foods within a one-mile radius in the first week, two miles in the second week until a maximum of six miles is reached and the camp is shifted owing to the lack of economy in daily trips longer than twelve miles.

In contrast to foragers "collectors" supply themselves with specific resources through specially organized task groups. Collectors are characterized by storage of food for at least part of the year and logically organized food-procurement parties. Special task groups may have a residential location and establish a field camp or station from which food procurement operation may be planned and executed. Special task groups may leave a residential location and establish a field camp or a station from which food procurement operations may be planned and executed. Collectors generate additional site types referred to by Binford as a residential base, field camps, stations and caches. These residential bases would be equivalent to Brown's base camps. The field camps would probably correspond to extractive camps, but could easily be confused with his residential camps.

There are a number of types of data that are important in establishing the function of sites. Overall site and debris density size is an indication of the population size and intensity of occupation. The relative range of tool types is also an indication as to whether the site represents a base camp or more limited use extractive camp. The presence or absence of features, evidence of specialized refuse disposal is important in assessing the nature and degree of occupation. Faunal and floral remains, when recovered, provide important information regarding subsistence patterns and periods of occupation at the sites.

Reynolds (1979) has noted that Grasshopper Falls phase sites contain rather permanent structures suggesting a degree of sedentism. However, the small amount of trash debris present lead him to believe that they were only briefly occupied or occupied on a seasonal basis. Much of the same pattern has been noted by Witty for the Pomona sites at Perry Lake. The presence of relatively thin amounts of debris on these sites might reflect the presence of specialized refuse disposal areas rather than a brief occupation. Specialized refuse disposal areas have been noted at both Late Woodland (Parisi 1985) and at Late Archaic sites in central Missouri (Schmits and Bailey 1985).

METHODOLOGY

The methodology utilized during the inventory of cultural resources at Perry Lake is best discussed as a series of closely interrelated phases. These phases include literature review, geomorphological terrain analysis, field survey and laboratory analysis. The approach to each of these phases is reviewed below.

Literature Review

The literature review phase was to a large degree conducted concurrently with the research design due to the need to incorporate information from the literature review into the research design. The literature review has provided the background necessary to conduct the proposed work.

Major literature pertaining to the cultural resources of Perry Lake is related to the five major cultural resources projects which have been conducted there since 1948. These include the reports of Witty (1964, 1982, 1983), Reynolds (1978, 1979), Jones (1968, 1976, 1978), Nickel (1973) Bass, McWilliams and Jones (1967), Reichart (1972, 1973, 1976, 1984), Iroquois Research Institute (1977). Marshall (1967), and Marshall and Witty (1968). These reports have been reviewed in the discussion of previous investigations at Perry Lake.

The literature review phase of the proposed research at Perry Lake included a review of the above reports and others which pertain to the cultural resources of Perry Lake. Also consulted in detail were the State of Kansas archaeological site record forms on file at the Department of Archaeology at the Kansas State Historical Society. The State Register of Historic Places, State Cultural Resources Plan, and the National Register of Historic Places be consulted for information on cultural resources within the project area. Individuals familiar with or local to the project area, as well as agencies of local and county governments will be consulted for information they may have on the cultural resources of the project area. Nineteenth and twentieth century plat maps (George Ogle and Company, 1899, 1916) were examined to determine the location of historic sites.

Field Survey

The fundamental component of the project was the field survey and limited testing of the archaeological sites within the project survey area along with the National Register Testing at three sites. The field survey focused on the two related tasks of site discovery and site documentation. Each survey was investigated by means of an intensive pedestrian transect survey. The width of the survey interval did not exceed 30 m depending on the surface visibility in the northern area and the width of the shoreline in Areas 1-22. Transects along the lake were curvilinear in orientation and followed the contour of the shoreline. These areas were surveyed between the level of the multipurpose pool of

891.5 ft to an elevation of 900 ft above msl. The later elevation coincided with a line of driftwood marking the extent of relatively recent flooding. In the northern area transects were generally linear and were oriented east to west or north to south depending on the direction of the crop rows.

Pedestrian survey took full advantage of exposed soils as a source of information on the presence of archaeological resources. Special attention was given to areas of exposed soil such as plowed fields, erosional gullies, rodent burrows, cut banks and other disturbances which represented the best situations for site discovery.

Once a cultural resource was discovered through the pedestrian survey of the project area, the focus of the project became the documentation of the resource. Documentation of the sites provided information on site limits, presence/absence of surface and buried cultural materials, cultural components present, type of site, and condition of the site. In most cases, the documentation of the sites required limited testing to provide the required information. This limited testing was primarily restricted to a program of shovel testing or coring or limited test unit excavation and did not constitute in-depth National Register testing.

When artifacts were encountered transects were narrowed to between 2 to 5 m intervals, depending in the density of cultural debris. The entire site area was carefully walked over to establish the approximate site boundary. Both color and black and white photographs were taken of each site and the location was placed on the appropriate U.S.G.S. 7.5 minute topographic map. A temporary field number was assigned to the newly recorded sites until the Kansas State Historical Society site survey forms were completed and the official site numbers obtained. Preliminary limited testing was conducted at each site located during the survey to determine if more intensive National Register Testing was warranted. The limited testing included the excavation of 30 by 30 by 30 cm shovel tests placed at 10 to 20 m intervals across the site area. An Oakfield soil probe was also used to test for more deeply buried deposits at several of the sites. These limited tests were conducted to determine if intact cultural deposits and/or intact soil profiles were present at each of the sites investigated. The limited subsurface testing also helped to establish site boundaries.

The limits of the site, as well as the location of any shovel tests, were indicated on a planimetric map of the site prepared with a pocket transit and chain or an alidade and plane table. Internal variability in artifact densities was recorded on the site map, as were any observed cultural features. Subsurface characteristics of each site were evaluated from information provided in exposed soil profiles, cutbanks and shovel tests. All excavations made during this project were filled in and restored to the previous condition as nearly as possible.

Originally, it had been planned to employ backhoe trenching to supplement the shovel tests excavated during the survey and testing project at Perry Lake. However wet, muddy fields were encountered

within the northern portion of the project area while the shoreline sites to the south generally lacked adequate access, precluding the efficient use of a backhoe. Given that it was impractical if not often impossible to mechanically test the sites, hand excavation of shovel tests remained the most optimal technique of site detection available during the Perry Lake survey.

For all prehistoric sites and all historic sites characterized by a surface scatter of artifacts, a collection of artifacts was made. The objective of this collection was to provide a sample of artifacts from the site, with the goal of providing the information necessary to make determinations of site age and type. Artifact collection strategies varied from a 100 percent sample from small sites to a sampling strategy at larger sites. Sampling procedures on larger sites was varied according to conditions, but focused on controlled collection from recorded sections of the sites. The focus was on the recovery of all age/function diagnostic artifacts from a site and the collection of a sample of other, non-diagnostic artifacts. All collected artifacts were placed in bags marked with the site number (field number) and provenience within the site.

The initial phase of the National Register testing segment of the field program consisted of a resurvey of each of the three sites. After the site had been located the periphery of the site was flagged and a temporary datum established. The surfaces of the sites were systematically mapped and collected. Maps tying the site to topographic contours and natural features were made with a transit and alidade. Information was taken so that sites could be easily located on U.S. Army Corps of Engineers project maps. Collection techniques consisted of a 100 percent sample of all exposed cultural material.

The primary method of subsurface exploration was the excavation of test units at the three sites. The primary objective of these excavations was to produce sufficient data to make a determination of eligibility for the National Register of Historic Places for the property in question. The Scope-of-Work also called for a proposed plan for mitigation of adverse effect for sites deemed National Register eligible. The primary types of data that was sought during the testing phase was: (1) horizontal and vertical extent of the sites, (2) data which will establish the nature, density and cultural affiliation of the occupation, and (3) information useful for formulating a mitigation plan.

The number of test units placed at a given site was dependent upon site size and condition. Testing normally terminated at a depth of 80 cm unless geomorphic evidence indicated the presence of deeply buried deposits. Test units were excavated at intervals of 10 m.

All tools recovered in each unit were plotted three-dimensionally. In addition, ESA level summary forms were completed for each excavation level in each test unit. Excavation levels consisted of 10 cm levels. Data recorded for each level included the site number, excavation unit, depth, excavation techniques, description of soils and stratigraphy, artifacts recovered, features present, special samples and

photographs taken. Profiles were also recorded for each test unit. The recovered material was carefully bagged and recorded by level and unit. All test units were backfilled. Feature data forms were completed as features were encountered.

All sites were recorded with black and white photographs and color slides. These included general site views as well as views of site details such as soil profiles, work in progress and features such as buried hearths or historic foundations. Recordation also involved the preparation of field notes and the completion of official State of Kansas Archaeological Site Survey Forms.

Historic sites required a somewhat different set of evaluative methods including archival research and oral interviews.

Laboratory Analysis

The laboratory analysis phase involved the laboratory preparation of specimens followed by the actual interpretive analysis of recovered materials and feature data. Laboratory preparation began after completion of field work and involved cleaning and cataloging (numbering and listing) all artifacts recovered during the project. This task prepared the collections for permanent curation and allowed the proper analysis of the materials.

Historic metals, ceramics and glass were scrub-washed. Cleaning bones and shell required one or more treatments depending on their condition. Dense, well-preserved specimens were washed using a soft brush. Friable specimens were first allowed to air dry and were subsequently cleaned by dusting and/or flaking away residue with an implement appropriate for the size and condition of the specimen. A protective sealer was applied over the inked sections of all numbered specimens to permanently seal the identifying catalog number.

Chipped-stone tools and lithic debitage constituted the largest class of artifacts found on most prehistoric sites. In many cases, these tools and associated debris make up the entire site inventory. Classification is important in organizing this data set and in providing a body of information from which inferences regarding cultural history and settlement-subsistence patterns can be made. For the Perry Lake survey and testing program a classification system similar to the one developed for the Milford, Melvern and Pomona Lake survey (Schmits 1984) was employed. The assemblages from the sites were initially sorted into raw material categories such as ceramics, chipped-stone tools, ground stone, unworked stone and lithic manufacturing debris. Chipped-stone tools were subdivided into a series of categories based on the presence or absence and type of edge retouch present. Within these categories a series of functional tool classes were defined on the basis of morphology (shape), placement of working edge, edge shape and evidence of edge damage or wear. These attributes will serve to identify broad functional tool categories which can then be associated with specific prehistoric activities.

Determination of National Register Eligibility

In that consideration of National Register eligibility represents a fundamental aspect of and underlies the methodology of this project, the National Register and determinations of National Register eligibility are reviewed in the following section.

The centerpiece of the Federal preservation legislation is the National Register of Historic Places, created by the National Historic Preservation Act of 1966. Inclusion on the National Register provides protection for a cultural property from federal actions. Determining if a site is eligible, potentially eligible, or non-eligible for listing on the National Register is therefore a fundamental step in determining the management needs of a specific resource. This need provides the rationale for the majority of the proposed research program at Perry Lake.

The criteria which determine whether a property is eligible for the National Register are set forth in 36 CFR 60.4:

National Register criteria for evaluation. The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

- (a) That are associated with the events that have made a significant contribution to the broad patterns of our history; or
- (b) That are associated with the lives of persons significant in our past; or
- (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) That have yielded, or may be likely to yield, information important in prehistory or history.

These criteria set forth in a neatly precise manner the substance of what is termed "legal significance" (Schiffer and Gumeran 1977:245). To state the situation concisely, if a property is adjudged to meet one or more of the above criteria, then it is eligible for inclusion in the National Register (i.e., it is a significant property) and therefore falls under the provenience of Federal cultural resource protection statutes. However, a determination of "significance" cannot be as simply and summarily assessed as the Federal Regulations seem to imply.

Because the Federal statutes which govern most cultural resource management projects revolve around determinations of significance and National Register eligibility, a substantial amount of literature is developing that explores these concepts (Dixon 1977; Glassow 1977; McGimsey 1979; Raab and Klinger 1977, 1979; Scovill et al. 1972; Sharrock and Grayson 1979; Wendorf 1978). What is "significant" varies from area to area and through time as research interests change. Promulgation of state and regional research designs, which are authorized by the National Historic Preservation Act of 1966, would provide a groundwork, however, archaeologists have to make the necessary determinations on the basis of what is already known, possible future developments, existing research designs, comparisons, and with the best overall professional judgement.

When dealing with determinations of eligibility for prehistoric archaeological resources criterion D is generally used. For sites bridging the prehistoric and historic periods, commonly referred to as protohistoric sites, and which are characterized by a paucity of historical documentation, criteria D remains the singlemost important criteria for evaluations of National Register significance. Criteria D requires a determination that an archaeological resource has provided or is capable of providing archaeological information important for our understanding of the historic or prehistoric past. When we enter the historic period and a growing diversity of historical documents, however, criteria A, B, and C are also important in assessing the significance of historical archaeological sites.

Determinations of eligibility based on criteria A and B rely on the association of significant events or persons with a specific site or sites. Determining significance in this case requires determining first that a particular event or person is indeed significant in history and second, that the significant event or person is demonstrably and directly associated with a specific site. Although the archaeological properties of a site are not in this case the reason for its significance, it is of importance to demonstrate that the site does exist and does possess an integrity which preserves to some degree its condition at the time of association with a significant event or person.

Criterion C is important in considering historical archaeological sites, but is most directly utilized in considering the standing historical architecture components of a site. Evaluation of any standing architecture at Perry Lake, if any, would have followed the guidelines provided by the Kansas Preservation Plan, Study Unit on the Period of Rural/Agricultural Dominance (1865-1900) (Kansas State Historical Society 1984). This document focuses on the built environment and provides a framework against which the importance of individual resources may be more precisely understood.

The most widely accepted and commonly employed means of making determinations under criterion D is to assess a site's potential to contribute new or substantial data towards the resolution of one or more specific research questions. Increasingly, the general ability of sites to provide the type, quantity, and quality of data generally required to solve anthropological and other interdisciplinary problems is becoming

of importance as the basis for determinations of significance (Glassow 1977). This approach recognizes the need to preserve archaeological data for research questions that have not yet been asked. In this case, the redundancy or non-redundancy of site data becomes an important consideration.

In making recommendations for the sites encountered during the Perry Lake project survey four basic criteria were utilized. These are: (1) physical condition of the site, (2) the site content, (3) its relationship to regional research questions, and (4) the expected impact on the site. The first three were used to evaluate the potential of the site for answering questions pertinent to the archaeology of the region and the fourth was used in the process of making recommendations for mitigation, if required.

Site condition was based on the amount and nature of post-depositional disturbance. Factors such as plowing, construction activities, road building, and natural erosion were taken into account. The site content was based on the archaeological features or remains which have been recorded or which can be expected to be present given the erosional and depositional conditions at the site. Included in the site content are such things as the presence or absence of a surface distribution, preservation of sub-surface cultural deposits or features, and the likelihood of recovering faunal or botanical remains or diagnostic artifacts. These factors and others were examined to determine which materials a future researcher might have to work with in further evaluation of the site. The knowledge gained so far about the particular site was then examined in relation to the present knowledge about the region specifically with regard to its potential for improving the data base regarding the historic past of the area.

These three major factors taken together were used in making a judgment as to the relative significance of a particular site. In the case of a site judged not significant no further work was recommended. This does not mean the site is of no interest as an archaeological manifestation but rather that further work would be unlikely to increase the data base already collected in survey and testing. Destruction of these sites will, therefore, not seriously affect the data base for the region, provided they have been adequately documented.

In the case of a site that is judged to be significant as a result of further testing, there are then a limited number of options for mitigation. The preferred option is preservation (Wendorf 1978, King 1975) which can include anything from simply withholding site location information to active protection of the site, dependent of the anticipated utilization of the area. The other options, in cases where planned activities will destroy or seriously endanger the site, is data recovery by excavation. The form of this excavation will vary in relation to the nature of the site and the research questions to be addressed. It could range from a controlled surface collection to a major block excavation.

V. HISTORY OF THE PERRY LAKE PROJECT AREA

Dennis Shockley

EARLY EXPLORATION

The historic period in Kansas traditionally begins in 1541 with the expedition of Francisco Vasquez de Coronado. Coronado and his party of about forty Spaniards reached the heart of present-day Kansas from Mexico in the summer of 1541 in search of the fabled land of Quivira. Although Coronado almost certainly did not venture as far north and east into Kansas as Jefferson County or the Perry Lake project area, he did lead the first European expedition into the region (Socolofsky 1972). Accompanying Coronado was the Roman Catholic priest Father Juan de Padilla. The expedition searched in vain for gold for about two months before returning to Mexico. However, Coronado left the first recorded description of Kansas, the soil of which he observed as the "most suitable that has been found for growing all the products of Spain, for, besides being rich and black, it is well watered..." (Miller 1965).

Other Spanish expeditions followed. Padilla returned the next year to continue his missionary work and was murdered by Indians. In 1593 or 1594, another Spanish expedition came to Kansas from the southwest and all but one of the group were killed by Indians. In 1601, Juan De Onate, Governor of New Mexico, launched another Spanish journey into Kansas, but only visited the south-central part of this state. The final official Spanish expedition came almost two-hundred years later in 1793, when Pierre Vial, a Frenchman in the employ of Spain, passed through southern Kansas en route from Santa Fe to St. Louis. It was because of these early expeditions that Spain laid claim to most of the southwest United States including Kansas (Socolofsky 1972).

France also played an important role in the early exploration of Kansas. The French voyages of discovery down the Mississippi River by Jacques Marquette and Louis Joliet in 1673 and Robert Cavelier, Sieur de la Salle in 1682, along with subsequent settlement along that river, established French claims to all the territory drained by the Mississippi. Between 1712 and 1724, the French sent Etienne Veniard de Bourgmont up the Missouri River in order to strengthen the French claim to the Trans-Mississippi West. In 1724, he passed very near the project area on his return eastward, passing through present-day Jackson and Atchison Counties. One account actually credits Bourgmont with passing through Jefferson County (Bernard 1905). Five years earlier in 1719, the Frenchman, Claude Charles Du Tisne came within a few miles of the project area (Socolofsky 1972). Unlike the Spanish, the French were interested in fur trapping and trade with the Indians. French hunters and trappers began appearing on the Missouri River at least as early as the 1790s, and then later proceeded up the Kansas River as far west as Jefferson County searching for the supply of fur bearing animals that

had been depleted on the Missouri. One of them, Francis Chauteau, established a trading post known as Chauteau's Landing or Kansas Landing near the confluence of the Missouri and Kansas (Kaw) Rivers in 1828. A few years later, a cousin of Chauteau's set up a trading post on the south side of the river opposite Jefferson County and about two miles east of Lecompton. Fur bearing animals were plentiful and easily caught at this early date and the French did a thriving business. They taught the Kansa (Kaw) Indians and later the Delaware how to trap and then traded with them for the furs. It is reasonable to believe the Delaware River was also a fertile trapping area (Bates 1954). The French were later followed by American trappers and traders.

In this early historical period, Kansas was populated by several Indian peoples. The western portions of the state, or the high plains, were occupied by the nomadic tribes of the Cheyenne and Arapaho, followed later by the Kiowa and Comanche. The north-central portion of the state was occupied by the Pawnee, while the eastern part of the state was dominated by the Kaw to the north and the Osage to the south. The Kansa tribe was the one which laid claim to the Kansas River valley and the project area. Unlike the Indians of the high plains, who lived a roving existence and depended on the buffalo, the Kaw had more permanent villages and cultivated crops (Richmond 1974).

American exploration came next. The first official American expedition to come near the project area was the one headed by Meriwether Lewis and William Clark, 1804-1806, which traveled the Missouri River. Next came Daniel Morgan Boone about 1805, who eventually settled in what is now Jefferson County. The next official exploration in the region was that of Zebulon Pike in 1806. It was followed by the expedition led by Major Stephen H. Long in 1819-1820. Although Long circled Kansas, detachments from his expedition traveled through the state (Richmond 1974).

The first recorded visit by Americans or Europeans to what is now Jefferson County was headed in 1819 by Thomas Say from the Long expedition. Say and his party left the Missouri River and traveled up the Kansas River (which constitutes the southern boundary of Jefferson County) as far west as present-day Manhattan, and then returned to the Missouri River just below Atchison where they rejoined the main expedition. On this return route, Say entered Jefferson County in the northwestern corner, proceeded down the Delaware River to the falls, and camped there on August 27, 1819 (Andreas 1883).

DANIEL MORGAN BOONE AND THE KAW INDIANS

On June 3, 1825, the U.S. Government concluded a treaty with the Kaw Indians for the purpose of removing various tribes from the Ohio Valley and Great Lakes region and relocating them on reservations in the area that later became eastern Kansas. It was agreed that the government would supply the Kaw with 300 cattle, 300 hogs, 500 fowl, three yoke of oxen, two carts, and farming tools for this privilege.

General William Clark, the Superintendent of Indian Affairs, was directed to hire such people as were necessary to teach the Kaw the use of the tools and farming practices in general. The 1825 Treaty was signed by Clark in St. Louis and by prominent Kaw chiefs such as White Plume (head chief of the Kaw), Great Valor, Little White Bear, Real Eagle and Great Doctor. (Chief White Plume was the great-great grandfather of Charles Curtis, a United States Senator from Kansas in the twentieth century and Vice-President during the Hoover presidency). Special provision was made in the treaty for the Kaw half-breeds, who were the offspring of French traders. The Kaws, having twenty-three half-breeds in their tribe, reserved twenty-three tracts, each containing one square mile, all lying contingent to each other on the northern bank of the Kansas River from the Kaw reserve (now the western boundary of Soldier Township in Shawnee County) to about four miles east of the Delaware River in what is now Jefferson County. These tracts lie along the southern border of what is now Kaw Township. This area was not opened for settlement but was settled by white men regardless of the claims of the Indians. After a great deal of controversy and litigation, the settlers purchased this land and it now appears on abstracts as Kaw half-breed Indian land, usually described by survey numbers instead of by Township and Range. The reason for this designation was the undeterminable southern boundary caused by the course of the Kansas River (First Hundred Years 1955).

The first Euroamerican settlement in Jefferson County and Kansas consisted of appointees of the Superintendent Clark hired to teach the Kaw agrarian skills pursuant to the 1825 Treaty. These government employees included a blacksmith, farmer and Indian agent. They settled on the northern bank of the Kansas River near the present site of Williamstown. This became the first Indian agency in Kansas. The individual hired by Clark to teach the Kaw farming practices was Major Daniel Morgan Boone, son of the legendary frontiersman, Daniel Boone.

Daniel Morgan Boone was born in Kentucky in 1770, the third son of the Kentucky hero. At the age of 25, he left home to explore westward. He accompanied two French trappers as far west as the present site of Kansas City. After his return to Kentucky, he induced his father to move to what is now Missouri in 1796, finally settling at a place called Boone's Licks where, among other things, they engaged in the manufacture of salt. The elder Boone, as well as his sons, made numerous excursions along the Kansas River up to one hundred miles from its mouth. These hunting trips occurred between the years 1805 and 1815. Of Boone's five sons, it was Daniel Morgan and Nathan, the youngest, who made the most frequent trips up the Kansas River (First Hundred Years 1955).

Daniel Morgan Boone was appointed in 1827 and given the title "Farmer for the Kansas Indians". He moved his family to Kansas and the "Boone Settlement" became the first EuroAmerican settlement in Jefferson County or in Kansas, being established more than a quarter-century before the state was opened for settlement in 1854. There on August 22, 1828, Napoleon Boone was born. He is credited with being the first white child born in Jefferson County or Kansas and the only one of the Boone's twelve children to be born in Kansas. A relative of Boone's wife was the blacksmith for the Kaw agency (Remsburg 1936). About 1835

or 1836, Boone and his family left Jefferson County and moved south of Westport, Missouri where he lived until his death. John C. McCoy, a frontier surveyor and missionary to the Indians (son of the missionary Isaac McCoy, who worked with Indians in Indiana and Michigan) and his brother, Rice, made all the original surveys in Jefferson County for the government. They met Boone several times between 1829 and 1836 surveying the territory for the relocation of the emigrant Indian tribes. He described Boone as a good man and a hard worker. John McCoy and Charles McCoy could be a progenitor of H. McCoy and Charles McCoy identified in the 1899 and 1916 plat books of Jefferson County (Andreas 1883).

ISSAC MCCOY AND INDIAN RESETTLEMENT IN KANSAS

Reverend Isaac McCoy was a Baptist minister, missionary and teacher, who believed that eastern Indian tribes needed to be moved beyond the Mississippi away from the influence of the white man in order to become Christian farmers. In the late 1810s and early 1820s, he worked among the Miami Indians in Indiana. In 1822, he moved to Michigan where he did work with the Potawatomie. McCoy was instrumental in convincing President James Monroe and his Secretary of War, John C. Calhoun, to conclude the 1825 Treaty with the Kaw and Osage tribes. McCoy was later appointed a surveyor and Indian agent to assist in Indian resettlement. He is credited with establishing several missions and schools in Kansas.

In 1829, the Delaware Indians signed a treaty with the United States government which relocated them in Kansas from Missouri. The reservation set aside for them included all of what is now Jefferson County. In addition, several Indian tribes in the eastern United States were transplanted to Kansas, before and following the Indian Removal Act of 1830. Approximately 11,000 Indians were removed to Kansas beginning in 1829 over the course of a decade. Among these emigrant Indians were all or parts of the following tribes: Delaware, Shawnee, Kickapoo, Wyandotte, Stockbridge, Miami, Pottawatomie, Ottawa, Munsee, Iowa, Wea, Chippewa, Piankeshaw, and Sac and Fox. In all, nearly thirty tribes were assigned reservations in eastern Kansas, however, in some cases only a few tribe members lived there or none at all (Richmond 1974).

The Delaware reservation granted the tribe all land north of the Kansas River beginning at its confluence with the Missouri, running west about forty miles to the eastern boundary of the Kaw nation, then north about thirty miles to the Kickapoo reserve, and finally east to the Missouri River just south of Leavenworth. The Delaware also reserved a strip a few miles wide that was parallel to the northern edge of the Kaw Indian reserve. In 1843, the Delaware sold the most eastern thirty-six sections to the Wyandotte tribe, which later became Wyandotte County. In 1854, the Delaware ceded their surplus lands to the United States when Kansas became a Territory; however, they retained a strip about ten miles wide along the northern bank of the Kansas River excluding the half-breed tracts. The remainder of their holdings in

Jefferson County included all land south of a line running east and west through the present site of Oskaloosa and all land east of a line running north and south and one mile west of the Delaware River. In exchange for their surplus lands, the Delaware received a trust fund resulting from the sale of these lands by the government to settlers. In addition, indemnity payments in excess of \$40 million were paid to the Kaw for timber and other losses. In 1860, a final treaty divided the reservation into individual land grants to each tribe member and the balance was sold to the Leavenworth, Pawnee and Western Railroad. By 1867, the last of the Delaware had moved from Jefferson County to the Indian Agency at Wichita (First Hundred Years 1955). The railroad was never built and disputes over part of the land were not resolved until 1868 (Steffey 1975).

EARLY TRAILS AND TRANSPORTATION

Many early trails criss-crossed what is now Kansas prior to it becoming a territory in 1854. The most famous of these were the Santa Fe and Oregon Trails. While neither of these two trails passed through Jefferson County, they nonetheless had a significant effect on both the growth and development of Kansas and Jefferson County. At the beginning of the nineteenth century, the western part of the United States was almost entirely undeveloped. The only major travel routes were rivers. William Becknell is credited with establishing the Santa Fe Trail. Around 1821, mule and ox drawn wagons and pack trains began traveling between the confluence of the Kansas and Missouri Rivers and Santa Fe, where the Spanish had established a government headquarters and trading outpost in the fifteenth century. By 1824, the trade between Westport Landing (Kansas City) and Santa Fe became so heavy that Congress authorized a survey of the route. The survey of the 775 mile route was completed in 1826. Wagon ruts can still be seen today on portions of the old trail. The Santa Fe Trail passed about twenty miles south of Jefferson County (Whitson 1959). Beginning in 1867, a succession of military forts were built along the trail to protect travelers from the Indians.

The Oregon Trail was another important trail which ran through Kansas. It started at Westport Landing, followed the Santa Fe Trail and parted for the northwest about forty miles from Kansas City. It was also known as the California Trail, Platte Trail and the Mormon Trail. It was first used by fur traders and by the 1840s traffic increased to Oregon. The California Gold Rush increased its use by luring many young men like Napoleon Boone to the gold fields in 1849 and 1850. The Oregon Trail came much closer to Jefferson County, passing about ten miles to the south of the Kansas River.

The extensive use of the Oregon Trail led the United States government to initiate efforts to learn more about the westward trails and to establish forts to protect traders and supply lines. Between 1842 and 1853, John C. Fremont, the famous explorer and politician, made five trips across Kansas, four of them for the government. He came very

near Jefferson County on at least two occasions. His fifth expedition in 1853 at his own expense was to survey a route for a Pacific railroad between the latitude of 38 and 39 degrees (Bernard 1905). Fremont in his accounts of Kansas was not as critical as Pike, Long and others in describing the area as a "desert". He indicated the agricultural potential of the region.

In 1847, Mormons began crossing northeastern Kansas on their way to Utah. In 1851, some Mormon families, en route from Kansas City to the Salt Lake region, stopped near what is now Thompsonville in Jefferson County on the Delaware River. There they remained for about two years. They built three log cabins and cultivated about fifteen acres. Three Mormon women died of cholera during their stay and were buried on the land. The Mormons evidently entertained the idea of settling permanently in the area, but could not gain title to the land from the Indians (Andreas 1883).

In 1849, construction began on a military road from Fort Leavenworth to Fort Riley (at Junction City). The road was built as a supply line between the forts and to accommodate the increased influx of settlers. The road was built under the supervision of Joseph O. Sawyer and was completed in 1854 (Steffey 1975). This road, more than any other event up to this time, facilitated the settlement of Jefferson County. The road crossed Jefferson County entering from near the northeastern corner of the county, and then heading southwest to Winchester, west to Hickory Point, and then southwest to Ozawkie, where it crossed the Delaware River. From that point, it proceeded through the county southwest to Mount Florence near Meriden, where it crossed into Shawnee County. Thus, it crossed the Lake Perry project area at about its mid-point (Andreas 1883). Every summer hundreds of wagon trains, carrying supplies for the forts farther to the west, traveled this road. Sometimes the soldiers did damage to settlers' property, stealing poultry and livestock (Cole 1911). The road stretched 130 miles between Fort Leavenworth and Fort Riley. In 1853, prior to completion of the road, a traveler commented that the road was "the roughest and most disagreeable one that ever was traveled by white man or nigger since the days of Moses. It was an incessant crossing of creeks, sloughs, quagmires, swampy bottoms and rocky hollows. It will cost government more than the new post to make that road practicable for general travel". That year, Congress allocated \$11,725 for "establishing communication between Fort Leavenworth and the Republican Fork of the Kansas River". But most of the bridge building came later (Barry 1954).

Another form of transportation began in Kansas in 1859 with the founding of the Leavenworth and Pike's Peak Express Company. Mule teams drove stages between Leavenworth and Denver, a popular route especially after gold was discovered in western Kansas (now Colorado) in the 1850s. It ran over the military road past Fort Riley to Denver. State station #3 was located at Ozawkie (Miller 1976). This stage line was sold in 1860 after the gold fields declined. It continued to operate into the 1860s under two other company names (Richmond 1974).

The Butterfield Overland Dispatch was created in 1865. As early as 1860, David Butterfield had sent surveying expeditions west from Atchison to Denver to plot an appropriate route. An 1865 survey by Lieutenant Julian Fitch left a detailed account of the route (Fitch 1928). In 1865, the Butterfield line began tri-weekly passenger service. The trip from Atchison to Fort Riley was made in twenty-two hours. The trip to Denver took five to six days if there were no problems. Butterfield owned twenty coaches and twelve oxen, and numerous mules and horses. The Butterfield stage line only lasted eighteen months, due primarily to the financial loss caused by Indian destruction. Also, the coming of the railroads marked its extinction (Shockley 1985). The Butterfield stage line ran through Jefferson County and the project area crossing the Delaware River at Ozawkie.

In the middle of the stage coach explosion came the Pony Express which began operation on April 3, 1860. For nearly eighteen months, it ran from St. Joseph, Missouri to Sacramento, California using part of the old Oregon Trail. The completion of the Pacific telegraph put an end to this famous mail service. The Pony Express did not travel through Jefferson County (Bernard 1905).

In addition to trails and land transportation, the rivers played an important role in early settlement. The rivers were first traveled by Indian canoes and French pirogues, then later by keelboats and steamboats. After 1840, steamboats were an important form of western transportation. In 1854, the first steamboat, Excel, carried a thousand barrels of flour to Fort Riley along the Kaw and made several more trips that year. By 1856, some sixty steamboats operated between St. Louis and Kansas City on the Missouri River. However, navigation on the Kaw proved hazardous due to shifting sand bars. Another kind of water transportation that proved important to Kansas was the ferry boat. Ferry boats were used on almost every stream of any consequence (Richmond 1974). The Douglas Ferry and the Tecumseh Ferry crossed the Kaw and connected Jefferson County to the southern bank of the river (First Hundred Years 1955).

BLEEDING KANSAS

Kansas was born as a territory and opened to settlement on May 30, 1854 with the Kansas-Nebraska Act. That landmark bill basically repealed the Missouri Compromise of 1820, which prohibited slavery north of 36° 30' or the southern boundary of Missouri. Instead, the act called for "popular sovereignty", the concept that voters would decide for themselves if slavery would be allowed in the new territories. This act touched off a battle in Kansas between proslavery and free-state or antislavery forces which captured national attention and became part of the sectionalism that led to the Civil War in 1861. That same year, 1854, the Republican Party was organized in opposition to the possible extension of slavery (Richmond 1974).

Settlement of the Kansas Territory began in earnest in 1854. The first settlers came primarily from Missouri, not to conspire to bring Kansas into the Union as a slave state, but rather to get there first to find the good land and to stake out claims. They were for the most part, however, sympathetic toward the institution of slavery. The cities of Atchison and Leavenworth were first settled by Missourians who were proslavery, thus community politics in these cities reflected that fact. Antislavery forces in New England raced to Kansas to "save" it from slavery. The Emigrant Aid Company of Massachusetts, supported financially by New England abolitionists, served as a conduit for antislavery settlers into Kansas. These settlers were responsible for founding the cities of Lawrence and Topeka (Zornow 1957).

President Franklin Pierce chose Andrew H. Reeder, a Pennsylvania attorney, as the first territorial governor and he immediately called for an election in November of 1854. On election day, many Missourians crossed the state line and voted illegally. The result was the election of a proslavery delegate to Congress. Another election held in March, 1855, to form a legislature also was deluged by Missouri forces and the first territorial legislature was unanimously proslavery. These illegal Missouri voters were known as "border ruffians" by free-staters (Zornow 1957).

Very few settlers actually settled in Jefferson County until 1855, although a number did come in 1854, settling near the military road or along the Kansas River. The most prominent settlement was at the military road crossing of the Delaware (Grasshopper) River at Ozawkie, where in 1854 brothers William and George Dyer located and set up a farm and trading post. Also in 1854, Henry Zen located at the falls on the Delaware River, where he built a cabin. There was scattered settlement all over the county by 1857, when the final Delaware purchase lands were sold at auction. Since Jefferson County was so close to Missouri, it shared in the earliest tide of settlement.

Jefferson County was deeply involved in the slavery debate. In the 1854 election, seventy-one votes were cast at George Dyer's house at Ozawkie, the designated polling place, and sixty-nine votes went for the proslavery candidate to Congress. In the territorial election of 1855, the "border ruffians" forcefully took control of the polling place in Jefferson County and drove away free-staters. The proslavery candidate won 234 to 6, although the census of the previous month only showed 96 eligible voters (Andreas 1883). Jefferson County was officially organized in 1855. Proslavery cities platted in that year included Jefferson City, Ozawkie, Mt. Florence, Kaw City, and Rising Sun. They were all short-lived except Ozawkie. Antislavery settlers were later incoming. Grasshopper Falls (Valley Falls) was settled predominantly by free-staters. On the western side of the Delaware, across from Ozawkie, the free-state city of Pleasant Hill thrived for awhile. Winchester, laid out in 1857, was a city evenly divided on the slavery question (First Hundred Years 1955).

In 1855, the first post office was established at Ozawkie with George Dyer as postmaster. Post offices were established later that year at Hickory Point and Grasshopper Falls. Also, that year, townsites

were laid out at both Ozawkie and Grasshopper Falls. That year also marked the first birth in the new county, as well as the first marriage (Andreas 1883).

The new territorial legislature met in 1855 and passed what became known as the "bogus laws", which included the Missouri slave code. The free-staters decided to hold their own convention in the fall of 1855. They met in Topeka and wrote a free-state constitution with Charles Robinson serving as governor. This further added to the political confusion. There were no party labels at this time; you were either proslavery or free-stater. At the legislative elections held by the "free-state party" in January, 1856, Jefferson County sent George S. Hillyer to the Senate and William Crosby, William Hicks and Issac Cody to the lower house (Andreas 1883).

Issac Cody was the father of William "Buffalo Bill" Cody, the famous army scout and later purveyor of the "wild west show". Issac Cody moved to Kansas from Le Claire, Iowa where his son William was born in 1846. The elder Cody moved his family to Kansas in 1854 locating near Fort Leavenworth. He later surveyed the townsite of Grasshopper Falls and promoted that city. Shortly after the Cody family moved to Kansas, Issac was stabbed by proslavery ruffians supposedly because of his abolitionist sentiments. He recovered, but less than three years later in 1857, he acquired a chill and died. The family always believed his death was due to complications as a result of the stabbing (Miller 1963).

With his father gone, young Will worked to support the family. While still an adolescent, he hired out to a freighting firm. Later, he rode briefly for the Pony Express. In 1864, he enlisted in the army, but saw no service in Civil War battle. After the war, he drove stage coaches and scouted for the Army for several years (Miller 1963). He became a legend in the Old West and later in the century he owned and operated the internationally famous, Buffalo Bill's Wild West Show.

Political troubles increased in 1856. The United States House of Representatives would receive neither the proslavery nor the free-state delegate to Congress. Early in 1856, the proslavery forces picked Lecompton as the territorial capital. Since it was only twelve miles from the free-state city of Lawrence, tensions mounted. That year saw the minor bloodshed of the previous year increase. Lawrence was attacked by proslavery forces and two people were killed. In May, five proslavery men were killed on Pottawatomie Creek in Franklin County by a group of free-staters led by John Brown. Other skirmishes near Baldwin and at Osawatomie, as well as Franklin and Trading Post, led to more killing. Between 1854 and 1861, approximately fifty persons died. While this number may not seem excessive, it made headlines in the eastern United States and brought the slavery question to the forefront during the presidential election of 1860 (Richmond 1974).

Jefferson County was not immune to the violence and bloodshed. Early in 1856, Grasshopper Falls was sacked by proslavers who burned a store, stole horses and fired several shots, and while there were no deaths, there was bloodshed. Other skirmishes in the county are

recorded. The next encounter of the free-state forces and proslavers took place in September of 1856 (Independent 1876). The free-state general, James Lane, hearing of proslavery activities in Jefferson County, proceeded to Ozawkie where he and his militia apprehended some proslavers who had been harassing the town. There they learned that a large party of proslavery men were collected at Hickory Point, north of Oskaloosa. On their arrival at Hickory Point, Lane and his men found a force of about 100 proslavers, under the command of Captain Robertson. Lane attacked, but the proslavery forces were well entrenched. Reinforcements arrived the next day and Lane bombarded the cabins where the adversaries were hidden. The two day battle ended with one killed and nine wounded on both sides (Andreas 1883).

The next effort to write an acceptable constitution and enter the union came in the summer of 1857 when proslavery delegates composed a document in Lecompton. The constitution was approved by a vote in December of that year. In January, 1858, Kansas had an election, but this time the free-staters won. The Lecompton Constitution was voted down in yet another election later in the year. Finally, in 1859, the delegates met in Kansas City and adopted the Wyandotte Constitution which was a free-state document following closely the Ohio Constitution. The Wyandotte Constitution was eventually accepted by the federal government and Kansas entered the Union on January 29, 1861.

EARLY SETTLEMENT: DELAWARE TOWNSHIP

Delaware Township was one of three organized townships formed in Jefferson County in January, 1856 and was originally named Grasshopper Township. The first Euroamerican settler was Henry Zen in 1854. Grasshopper Falls (Valley Falls) was the first permanent settlement. Soon other settlers followed. In 1855, a saw and grist mill was planned by a company of which Issac Cody was an organizer. In the spring of 1855, the town was named Grasshopper Falls after the insects that were abundant in the area. Several lots were given to leading citizens after the town was surveyed by Cody. Among the recipients were Governor Reeder and General Lane. A. J. Whitney was named the first postmaster.

The original name, Grasshopper Falls, was changed by the legislature to Sautrelle Falls (the French term for grasshopper) but citizens failed to appreciate the name. A later legislative change returned the original name to the city in 1875 (Vindicator 1938) and by 1889 the name was changed to Valley Falls. The first church was erected by the Lutherans in 1857 and the first school followed that same year. Early in the spring of 1856, William and R. H. Crosby built a small frame dry goods store. This store was burned in the slavery troubles of September, 1856, and rebuilt in 1857. P.H. Crosby later became a banker. In 1857, the Cataract Hotel was built in Grasshopper Falls (Andreas 1883).

The city of Grasshopper Falls grew slowly through the Civil War and after. The lack of railroads retarded its progress and growth more than

any other factor. In 1865, the Union Pacific Railroad built a line across the county along the Kansas River. The Atchison, Topeka, and Santa Fe, organized by Cyrus K. Holliday, an early transportation pioneer in Kansas, proposed a railroad through Grasshopper Falls as early as 1865, but voters defeated a bond issue related to it. Similar unsuccessful proposals were made until 1872 when the A.T. & S.F. line was built through the city. Also, in 1872, the Kansas Central Railroad was successful in opening a line through the township (Elliott 1970). This railroad development helped Jefferson County almost triple its population between 1860 and 1875.

In 1873, an incident occurred in Grasshopper Falls which can properly be called a tragedy. On November 29 of that year, two known horse thieves were arrested and killed by their guards, who feared they were escaping to avoid a vigilante committee of Grasshopper Falls residents. One of the guards, S. G. Green, was found guilty of murder and sentenced to prison. He was pardoned by the governor in 1875 and became a successful farmer and revered citizen in the community (Davis 1985).

With railroads now on the scene, the city began promoting itself. A promotional pamphlet of 1875 described Jefferson County as having an abundance of undeveloped agricultural land and an agricultural yield in that year that showed the fertility of the soil to be superior. In addition, the pamphlet stated there was an abundance of timber, minerals, churches, but no bonded debt ("Read, Reflect..." 1875).

Another pamphlet in 1889 stated that there was "no more beautiful town in Kansas" than Valley Falls. The business directory section boasted eight dry goods stores, six grocery stores, six hardware and machinery stores, two furniture stores, four barber shops, and three meat markets. The city also claimed five restaurants, three hotels, three drug stores, two jewelry stores, two banks, two mills, four blacksmiths, four livery stables, three harness and saddle shops, two stock buyers, seven physicians, two lawyers, two dentists, five boarding houses, three millinery and dressmaking shops and one veterinarian. In addition, there were several clubs and fraternal orders, four weekly newspapers, eight churches, an electric light plant and a public telephone station. In 1889, Valley Falls had a population of 1,245 and the county had approximately 17,000 citizens (Walker 1889).

EARLY SETTLEMENT: OZAWKIE TOWNSHIP

Ozawkie Township (1856) is the oldest settled township in the county and the city of Ozawkie is the oldest settlement in the county, started in 1854, and the townsite was laid out in 1855. That same year, Ozawkie was named the county seat. The land sales that occurred there in 1857 started a flurry of speculation fever around the county seat. Several large buildings were erected and a hotel was built. Town lots sold at a premium. Then, in 1858, the bubble burst. The county seat was moved to Oskaloosa by election and Ozawkie became a quiet country village.

In 1881, the Townships of Union, Oskaloosa, Ozawkie and Rock Creek voted bonds for the Leavenworth, Topeka and Southwestern Railroad. The line was completed from Leavenworth to Meriden by 1882, but it was purchased by the Santa Fe Railroad prior to completion. In 1883, the city had a population of about two hundred. It also had five stores, one large mill, one hotel, one livery stable, one blacksmith and wagon shop, two churches, one school and one doctor (Andreas 1883). In 1885, the first newspaper was published in Ozawkie. Elijah Harding, William Walker and William Boles were three of the oldest settlers of the county and were all still living in 1891 (Patrick 1891).

The name of Ozawkie is Indian in origin and probably comes from the name of the Sauk or Sac tribe. Old missionary records spell the tribe's name in several forms including Osaukis and Oussakis. The name has also been traced to a Sauk and Fox Chief (Vindicator 1940).

EARLY SETTLEMENT: OSKALOOSA TOWNSHIP

Oskaloosa Township was originally organized as Slough Creek Township and was one of the first three townships. The first settler in the township was Dr. James Noble, who located near Oskaloosa. Among the first settlers were Noble's brother, Thomas, Terry Trapp, N. B. and J.H.C. Hopewell, J. R. Rickman, E. and Jacob Faubion, H. O. Finch, John Jeffries, William Meredith and George and Conrad Schuster. The first town laid out was Jacksonville, located about one mile east of the present town of Oskaloosa in 1855. The town project was soon abandoned (Andreas 1883).

Later in 1855, the city of Oskaloosa was laid out by Jesse Newell and Joseph Fitsimons. In 1856, Newell built a steam saw mill nearby. The town site was originally named Iowa City. The first store was established in 1856 and was operated by Fitsimons, who also became the first postmaster the following year.

In October, 1858, the county seat was moved to Oskaloosa by the voters of the county. Valley Falls came in second just four votes behind. Oskaloosa was incorporated in 1869. By 1883, there were five churches, one school, three newspapers, four hotels and two banks. In 1877, W. C. Fowler was elected to the office of Recorder of Deeds of Jefferson County (Andreas 1883).

EARLY SETTLEMENT: ROCK CREEK TOWNSHIP

The first settlement in Rock Creek township was by William Wade in 1854. In 1855, Aaron and George Cook, A. Pearsall and James Dempsey arrived. The first business was a grocery and whiskey store opened at Mount Florence. The first post office was established at Mount Florence in 1857 with C. D. Shields as postmaster. Meriden was the principle

town situated at the Junction of the Santa Fe and the Leavenworth, Topeka and Southwestern railroads. Meriden had a population of almost 350 by 1883. It also had in that year seven general stores, one drug store, one hardware store, three grain elevators, one furniture store, two hotels, two livery stables and five churches. There were also three doctors and two lawyers. The town was platted in 1872 on land owned by Albert Owens. The first post office was established in Meriden in 1872, with Frank Cunningham as postmaster. Another town, Rock Creek, served as a station on the Santa Fe line, but was nothing more than that (Andreas 1883).

EARLY SETTLEMENT: FAIRVIEW TOWNSHIP

This township, south of Ozawkie, was formed in 1871 on a petition from J. H. Saylor and fifty others. Elections were held that year and Jacob Metzger was chosen Township Treasurer. No towns developed in this rural township, but a school district was founded in 1869 (Andreas 1883).

EARLY SETTLEMENT: KENTUCKY TOWNSHIP

This township was formed in 1856. The first Euroamerican settler was John Scaggs. The first settlements were on the Kaw half-breed tracts on the Kansas River. The first town was Rising Sun, laid out by Joseph Haddox in 1857. The first post office was established at Rising Sun in 1858 with L. Lutt as postmaster. Rising Sun flourished until the Kansas Pacific Railroad bypassed it in 1865.

In 1865, the city of Perry was surveyed and platted by the Kansas Pacific. By 1883, Perry had a population of 600. Its businesses included two general stores, one hardware store, one grocery store, one drug store, one furniture store, one millinery store, two blacksmith shops, two hotels and a grist mill. The town also had three churches and a school. The post office was established in 1865 with Josiah Terrell as the first postmaster.

Other cities in the township included Medina, Newman, Centerville and Thompsonville. The latter was located on the Delaware River, about three miles northwest of Perry. It only had a population of seventy, but had a post office which was established in 1878 with C. T. Tolles as postmaster. The village was located on the site of the Mormon settlement of 1851. It was named for C. L. Thompson, who erected a mill there in 1865 (Andreas 1883). Kaw, Rural, Sarcoxie, Union, Jefferson and Norton Townships constitute the remaining townships in Jefferson County, but lie outside the Perry Lake project area.

JEFFERSON COUNTY, KANSAS 1870-1900

The period from 1870-1900 in Kansas was one which experienced a number of economic, environmental, cultural and political disruptions. The grasshopper plague came in 1874, which decimated already drought-stricken crops. The grasshoppers stayed so long that they destroyed whole fields of wheat. The insects traveled in swarms, had voracious appetites and would eat the salt off a hoe handle (Rich 1960). The grasshoppers hit Jefferson County in August and left many farmers in dire straits. To make matters worse, the grasshoppers came again in 1875. In 1872, major flooding occurred on both the Kaw and Delaware Rivers. Severe winds damaged crops and buildings in 1875. Despite these problems, the county continued to do well agriculturally.

In 1876, the United States celebrated its Centennial. Jefferson County celebrated with a huge party at the Oskaloosa courthouse. Some citizens of the county traveled to the national party at Philadelphia. The Kansas exhibit at Philadelphia contained an immense Liberty Bell made of Kansas grasses hung from the center of the hall and just underneath it was a representation of the nation's capitol dome built entirely of Kansas apples with tall jars of grain and seed for the pillars. Visitors to the exhibit were amazed by the Kansas display of fruits, vegetables and cereal grains (First Hundred Years 1955).

In 1881, the price of corn and wheat reached the peak achieved during the years 1870-1900. The primary grain produced during this period in Jefferson County was corn; the primary livestock was swine. During the 1880s, land values rose about 400 per cent statewide. Kansas was booming; however, in 1887, an economic crash hit, triggered by mounting drought. In Kansas, farmers carried an average debt four times the national average as a result. This burden was directly related to the movements of agrarian discontent in Kansas which reached the fore in the form of Populism. Fortunately, Jefferson County and the eastern third of the state were well settled before 1881 and thus farms had been purchased before the advance in prices and the 1887 collapse was easier to bear. The Depression of 1887 hit central and western Kansas the hardest. Heavy mortgages as a result of drought led to farm foreclosures, 11,122 of them between 1889 and 1892 in Kansas (Zornow 1957).

By 1896, eastern Kansas had recovered and prosperity gradually crept back. During the 1880s and 1890s, sorghum had been introduced successfully in Kansas by the U.S. Department of Agriculture. The kafirs came first, then milo. In 1873, there were only 4,200 acres of sorghum in Kansas. By 1893, the acreage was greater than all other crops except corn, wheat and alfalfa. Sorghum was not raised in Jefferson County in any significant amounts until after 1893 (Kansas State Board of Ag. 1873-1983).

In 1889, coal was discovered near Meriden. The citizens of Meriden were excited by the discovery and the Meriden Coal and Mining Company was soon formed with W. E. Rice as president. By September, 1889, the coal company was mining 600 bushels of coal a day. The coal was sold to the railroads for fuel.

The agricultural problem of the latter part of the nineteenth century in Kansas led to a fascinating chronicle of political events in Kansas during this same period. Jefferson County voted Republican faithfully during this period although voters flirted with the Populists. In 1880, Kansas became the first state in the Union to adopt constitutional prohibition of liquor (a legacy that has continued to today). The prohibition forces were led by such forces as the Women's Christian Temperance Union and Carry Nation (Davis 1976). Republicans dominated state government in the 1870s and 1880s, although a Democratic governor did slip into office for two years beginning in 1883.

In Oskaloosa, the election of a woman mayor and five councilwomen in April 1888 received national and international attention. Voters were rather ashamed of previous administrations, so a clean government committee came up with the idea of an all-woman city government. They won in an overwhelming landslide. The new city council initiated several reforms including a Sunday closing law, a curfew, and an anti-spitting ordinance. Also, new sidewalks were installed, streets widened, a dog pound built and prohibition enforced. All but two of the group stood for reelection and easily won. The women were supported by the local Farmer's Alliance Organization. Jefferson County historians claim that this was the first "all-petticoat" municipal government in America (First Hundred Years 1955).

The agricultural depression of the 1880s gave birth to the Farmer's Alliance movement that became the People's Party or Populist Party in 1890. Although it was primarily rural in nature, the leadership of the Populist Party drew heavily from lawyers, editors and women who were interested in social and economic reform. In 1892, they ousted the dominant Republicans and elected their state slate to office. The agricultural depression of 1893 was ironically blamed on the incumbent Populist governor and the Republicans regained their hold on state government in 1894 and continued to control government well into the twentieth century (Zornow 1957).

The nineteenth century ended with the Spanish-American War of 1898. Volunteers from Jefferson County served mainly in General Frederick Funston's famous "Fighting 20th Kansas Infantry" and for the 21st, 22nd and 23rd Kansas Volunteer regiments. Also, county men served in other army units and in the Philippine constabulary. Jefferson County Negro troops served in the 23rd regiment under Colonel Theodore Roosevelt (First Hundred Years 1955).

JEFFERSON COUNTY INTO THE TWENTIETH CENTURY

The new century began in Jefferson County with the coming of residential telephones, electric lights, manufactured ice and the automobile. All of these reached Jefferson County at about the same time. The first local telephone "exchange" was installed in Oskaloosa in 1900. In 1901, the first telephone system was organized in Perry; it consisted of only a few wires strung on poles to about five or six

customers. In 1903, Perry received long distance service and in 1907 was connected to surrounding towns. In 1902, a local electric company was formed in Oskaloosa (Independent 1960).

The automobile was considered a curiosity when it first appeared in the county. With the invention and increased use of the automobile came a clamour for better roads. Horse drawn buggies and wagons could travel over muddy roads, but not the automobile. Roads were first laid out on section lines and were financed under the poll tax system. "Automobile Good Roads Tours" were sponsored by various organizations to promote the building of good roads. Prizes were offered for various car races, and newspapers sponsored "cup runs" with the winner receiving a loving cup as a trophy. As the number of automobiles increased, the demand for more and better roads became greater. Pressure on the State legislature led to the "Good Roads" bill of 1907. Kansas was the first state to have such a law and it primarily affected rural or county roads. State highway improvements came in 1917 with the creation of a state highway department. In 1908, A. O. Kendall purchased the first automobile in Ozawkie, a Model T roadster (Bates 1954).

The high school also reached Jefferson County around the turn of the century and organized athletics soon followed. During World War I, the State Legislature provided for rural high schools. In 1907, Oskaloosa integrated its city schools and a new school was erected the following year. The Ozawkie high school was organized in 1915. In 1921, a new high school was constructed at Perry for a cost of \$60,000 (Independent 1960).

Prior to World War I, in 1916, an independent military company was organized in the county headquarters at Oskaloosa. It was part of the preparedness effort in regard to the war then raging in Europe. A building was set aside as an armory and a rifle range installed. This became Company B, 2nd Kansas Volunteer Infantry which was called into service on the Mexican border in 1916 to deal with Pancho Villa. In the summer of 1917, Company B became part of the 3rd Kansas Infantry and traveled to Doniphan, Oklahoma on the Fort Sill reservation to prepare for its trip to Europe after the U.S. declared war in April, 1917. It saw service in many of the heavy engagements of the war in France as part of the 35th Division (First Hundred Years 1955). Passenger trains loaded with soldiers and freight trains loaded with battle equipment and supplies passed through Jefferson County headed for Europe. Meanwhile, the folks back home saw food rationing in the form of meatless Tuesdays and wheatless Wednesdays. The women of the county organized to work for the Red Cross and made bandages for military hospitals and sweaters for the soldiers (History of Grantville 1976).

World War II began in December, 1941, for America. On December 22, 1940, however, the 35th Division was again called to active duty and its roster included 4,800 members of the Kansas National Guard. Jefferson County was again represented and the local boys were sent to train at Camp Robinson, Arkansas. Rationing and "victory gardens" marked the home front. Kansans were particularly proud that Allied Forces in Europe were under the command of native son General Dwight D. Eisenhower (History of Grantville 1976).

AGRICULTURE AND DEPRESSION

Jefferson County's economic base began and remains embedded in agriculture. Considered part of the Kansas "corn belt", the county produced and continues to produce primarily corn, wheat, oats, rye, other grains, bluegrass, clover, alfalfa and other varietites of hay. Also, large orchards of apples, pears, peaches and other small fruits dotted the countryside until about 1950. Corn and hogs were the staple in Jefferson County for years, whereas today it is grass and cattle. It was not until the late 1970s that wheat production surpassed corn production in the county. Western Kansas counties made this switch much earlier. It was well into the late 1940s before cattle clearly dominated hogs in the county (First Hundred Years 1955).

Agricultural depression was evident in Kansas starting in the 1920s. Livestock values plummetted by one-third between 1913 and 1923. When the nationwide depression hit after 1929, livestock values dropped further and crop values dropped by almost two-thirds between 1923 and 1933 (Kansas State Board of Ag. 1873-1983). During several drought years in the 1930s, poultry production was encouraged to aid farmers. Agricultural Adjustment Act programs and corn-hog allotments came in 1934 and helped area farmers. In 1936, the worst crop failure in county history was recorded. It ruined many area farmers and hundreds of Jefferson County farm mortgages were foreclosed (First Hundred Years 1955).

Jefferson County was organized as a soil conservation district in 1947 and this aided county farmers by lending advice on farm plans, building farm ponds, improved seeding and generally improving the productivity of farms. Agricultural extension services aided by federal funds also helped farms in the county. The "home demonstration" feature of the Kansas Farm Bureau helped farm wives improve management and nutrition in the farm home. The 4-H movement begun in Jefferson County in 1924, continued to help improve the quality of farm products. Farmers were further helped in 1939 when the first gas producing well was successfully drilled in the county. Almost 220 oil and gas wells were under production by 1944. After World War II, Cities Service Gas Company began leasing to establish an underground storage field. Rural electrification probably did more to revolutionize farm living in Jefferson County than any other single innovation. In 1940, the Leavenworth-Jefferson Electric Cooperative was launched to fund 260 miles of electric distribution lines. Delayed by World War II, by 1946 the Co-op was furnishing power to 2,329 customers (First Hundred Years 1955). Today, dairying and livestock raising are the major agricultural interests of the county.

PERRY LAKE

Great floods on the Kansas and Delaware Rivers had been recorded in Jefferson County as early as the gigantic flood of 1844. Flooding was

fairly frequent on both rivers; the most famous between the 1844 flood and the 1951 flood was the great flood of 1903 which did considerable damage (Bates 1954).

Rumors started in the 1930s that the U.S. Army Corps of Engineers might build a dam on the Delaware River. These rumors persisted into the 1940s. As a lake project came closer to reality, a group of concerned citizens met at the Ozawkie High School in February, 1948 to express their opposition to a dam on the Delaware River. Local opponents of the lake project traveled to Washington to speak to a hearing held at the War Department. In 1951, the greatest flood in the history of the Kaw Valley struck, giving strength to the argument for the dam. The Perry project was given final approval in 1954 and the town of Ozawkie was to be inundated. The Ozawkie residents felt that if their town was going to be flooded, that the least the Corps could do was to name the project the "Ozawkie Dam and Reservoir". Petitions were circulated by the Grange organization, but in vain.

In order to save their unincorporated village, Ozawkie residents secured from the Corps a proposed recreation area on the west side of the Delaware, there they started the new city of Ozawkie. It took a lot of hard work and money to acquire the land, but the city received approval from the county for the townsite on December 12, 1964. Three cemeteries were moved by the Corps in 1965. They were: Crone (T10, R18, Sec. 7); Limeburner (T10, R17, Sec. 22); and Olive Branch (T10, R17, Sec. 25). Ozawkie was incorporated in 1967, the same year that the dam gates were closed, and the Delaware River valley began flooding (Steifey 1975).

In 1967, Richard Elliot, a Jefferson County consulting engineer, drew up plans for old Jefferson Town on the edge of Oskaloosa. This project of the Jefferson County Historical Society was designed to preserve the county's historic and agricultural past. The Society is headquartered there today and has purchased a country store, chapel and schoolhouse and moved them to the location. Also, a wrought-iron footbridge from the area flooded by Perry Lake has been moved to the site. One exhibit pays tribute to Jefferson County's most famous native son, muralist and painter John Stewart Curry, who was born on a farm six miles north of Oskaloosa (Rousseau 1971).

In 1970, Perry Lake attracted 1.5 million visitors even though it did not officially open until August of that year. Almost three million visitors came to the lake the following year. Perry Lake is strategically located seventeen miles from Topeka, fifteen miles from Lawrence and forty-eight miles from Kansas City. That has meant that not only are large numbers of people located within a short driving distance to its recreation facilities, but also that lakeside housing subdivisions are close to the jobs in these cities. Many people live in the vicinity of the lake and work in Topeka at hospitals, state offices, the Santa Fe offices and the Goodyear Tire and Rubber plant (Keller 1971).

Today, Perry Lake features restaurants, a waterslide, flea markets, a summer theater and historic points of interest. Marinas and launch

points dot the perimeter of the lake and during the year activities such as boating, swimming, sunbathing and picnicing are enjoyed. Jefferson County had a population in 1980 of 15,207 (Truhe 1983). This showed a significant jump in population over a stagnant population prior to the census of 1970. This growth can be attributed in large part to the development of Perry Lake by the U.S. Army Corps of Engineers.

VI. SURVEY AND TESTING AT PERRY LAKE

John M. Parisi

In the summer of 1985, an intensive cultural resources pedestrian survey and preliminary site testing project was conducted at Perry Lake by ESA. The survey covered over 2700 ac of project lands and resulted in the recordation of 23 new archaeological sites, as well as the relocation of 27 previously recorded sites. National Register testing was also conducted at sites 14JF34, 14JF320 and 14JF366 within the project area.

Most of the terrain investigated by ESA in 1985 consisted of the badly eroded shoreline of Perry Lake. However, a sizable portion included plowed fields and row crops located on the floodplains and low terraces of the Delaware River and Cedar, Peter, Walnut and Rock creeks in the northern portion of the project area.

The portions of the shoreline of Perry Lake surveyed by ESA were selected from the 22 separate areas designated by the Kansas City District of the U.S. Army Corps of Engineers (Figure 3). The survey of these areas focused on the shoreline and included 1375 ac between the elevations of 891.5 and 900 ft above msl in Survey Areas 1-7, 9-14 and 16-18. Sixty-five acres were also surveyed above the shoreline within Survey Area 22, between 900 and 950 ft above msl. The remainder of the survey was conducted within the Northern Survey Area, between 890 and 960 ft above msl, in the vicinity of Valley Falls, Kansas. A total of 1300 ac of agricultural fields was surveyed in this area.

The 1985 intensive survey of Perry Lake was conducted in accordance with the methods discussed in the research design. The Perry Lake survey was completed between July and September of 1985. Every effort was made to locate all of the prehistoric and historic sites within the project lands surveyed. However, it is possible that cultural materials were obscured from view and remain undetected. The period during which the fieldwork was scheduled witnessed an unusually large amount of rainfall resulting survey conditions that were not optimal. The luxuriant growth of vegetation along the upper portion of the lake shore often obscured the ground surface. It is possible that very small or diffuse scatters of cultural debris may not have been located during the survey.

The increased rainfall resulted in flooding along the shoreline as the level of the multipurpose pool rose from 891.5 to 896.0 ft above msl during the course of the field investigations. The lower portion of the shoreline was completely inundated in some areas, leaving only a narrow strip of eroded shoreline, usually 5 to 10 m wide, with adequate surface visibility. Within Survey Area 11, several previously recorded sites, including 14JF43, 14JF55, 14JF56 and 14JF326, were completely flooded and no cultural material was encountered. Since these previously recorded sites could not be relocated due to flooding, it is possible that other sites between the elevations 891.5 and 896.0 ft above msl in this area may also have gone unlocated.

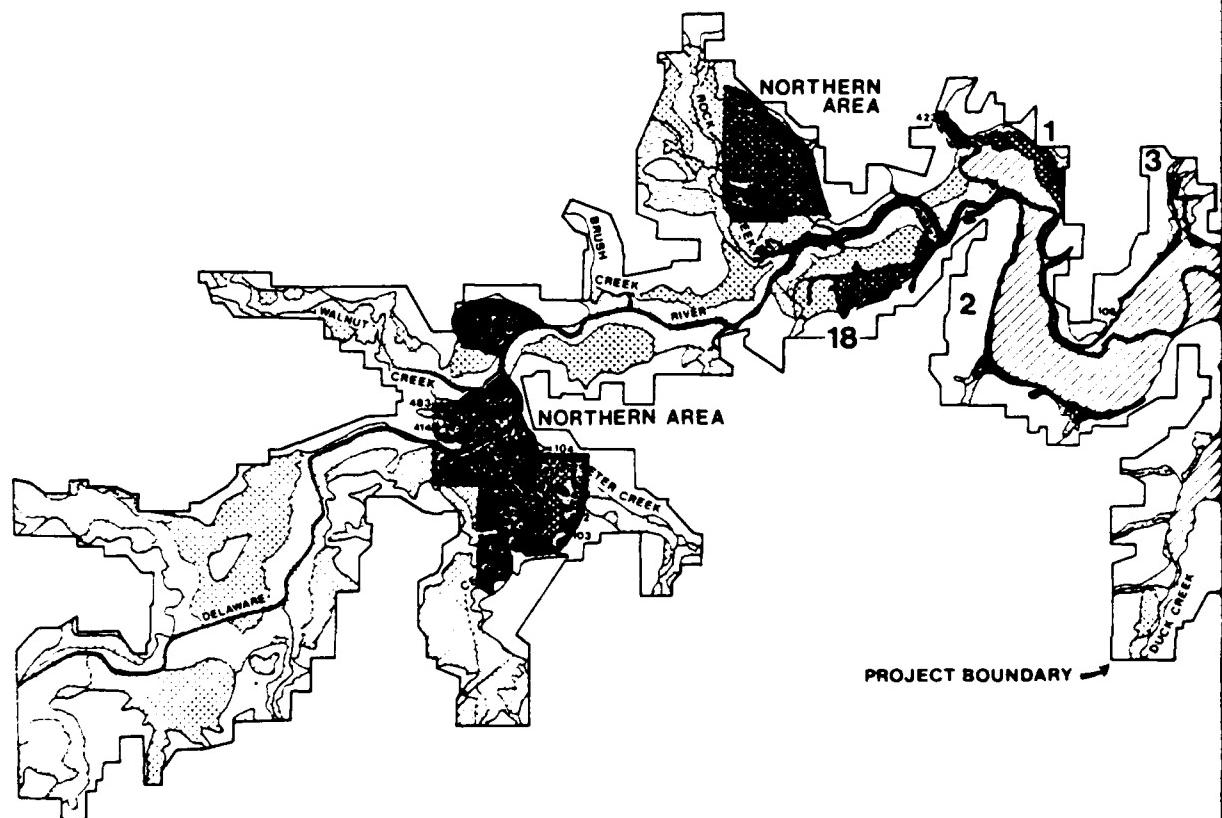
Two additional factors affecting the results of the Perry Lake survey are the effects of shoreline erosion and the removal of artifacts from sites by local collectors. It is possible that the continuing erosion of the shoreline of Perry Lake and the banks of the Delaware River, Cedar, Walnut, Peter and Rock creeks in the northern area, will expose cultural materials which were buried during the present survey. Obviously certain terrain types, such as low terraces, are more likely to contain buried deposits than the upland side slopes. The geomorphological terrain analysis of the project area will assist in identifying these areas of greatest potential for buried sites (Chapter VII).

The removal of artifacts from archaeological sites by local collectors can also obscure the presence of sites during an archaeological survey. It is unlikely that all cultural material exposed at a site will be removed by collectors. However, it is possible for artifact collecting to diminish archaeological visibility, especially small sites in areas of dense vegetation. Interviews with local collectors, such as Milton Reichart of Valley Falls, Kansas, provided a means of assessing this possible bias.

Thus the wet weather, dense vegetation, high water level, continuing erosion and artifact collecting are factors which must be taken into account when evaluating the results of the Perry Lake survey. While it is possible that some small sites were overlooked due to these factors, it should be pointed out that many prehistoric archaeological sites in the survey areas had already been recorded by Tom Witty of the Kansas State Historical Society, Jack Schock formerly of The University of Kansas and Milton Reichart of Valley Falls, Kansas. Milton is a certified amateur archaeologist and has conducted surveys within the project area both as an amateur and a professional archaeologist. Primarily as a result of his efforts, and the surveys conducted by Schock and Witty, all of the larger prehistoric sites along the shoreline were recorded prior to our survey. The few unrecorded prehistoric sites discovered during the 1985 survey are small or relatively light artifact scatters. Overall, the survey conducted by FSA, combined with these previous efforts have resulted in the location of virtually all exposed cultural resources within the survey areas investigated.

The terrain investigated at Perry Lake in 1985 was divided into 18 separate areas. They include Survey Areas 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16, 17, 18 and 22 which were so designated by the Kansas City District of the U.S. Army Corps of Engineers, and the Northern Survey Area located in the northern portion of the project area (Figure 3). The distribution of acreages within each of the areas and the sites recorded are presented in Table 4. A brief discussion of each survey unit and the results of the cultural resources inventory are presented below.

Survey Area 1 includes 120 ac at the extreme northern edge of the multipurpose pool of Perry Lake and extends eastward along the banks of Bowies Branch, a small tributary of the Delaware River. Most of this survey area consists of wetland habitat, which was flooded at the time of the survey. Surface visibility ranged from 0 to 80 percent with the



SITES INVESTIGATED

1985 SURVEY AREA

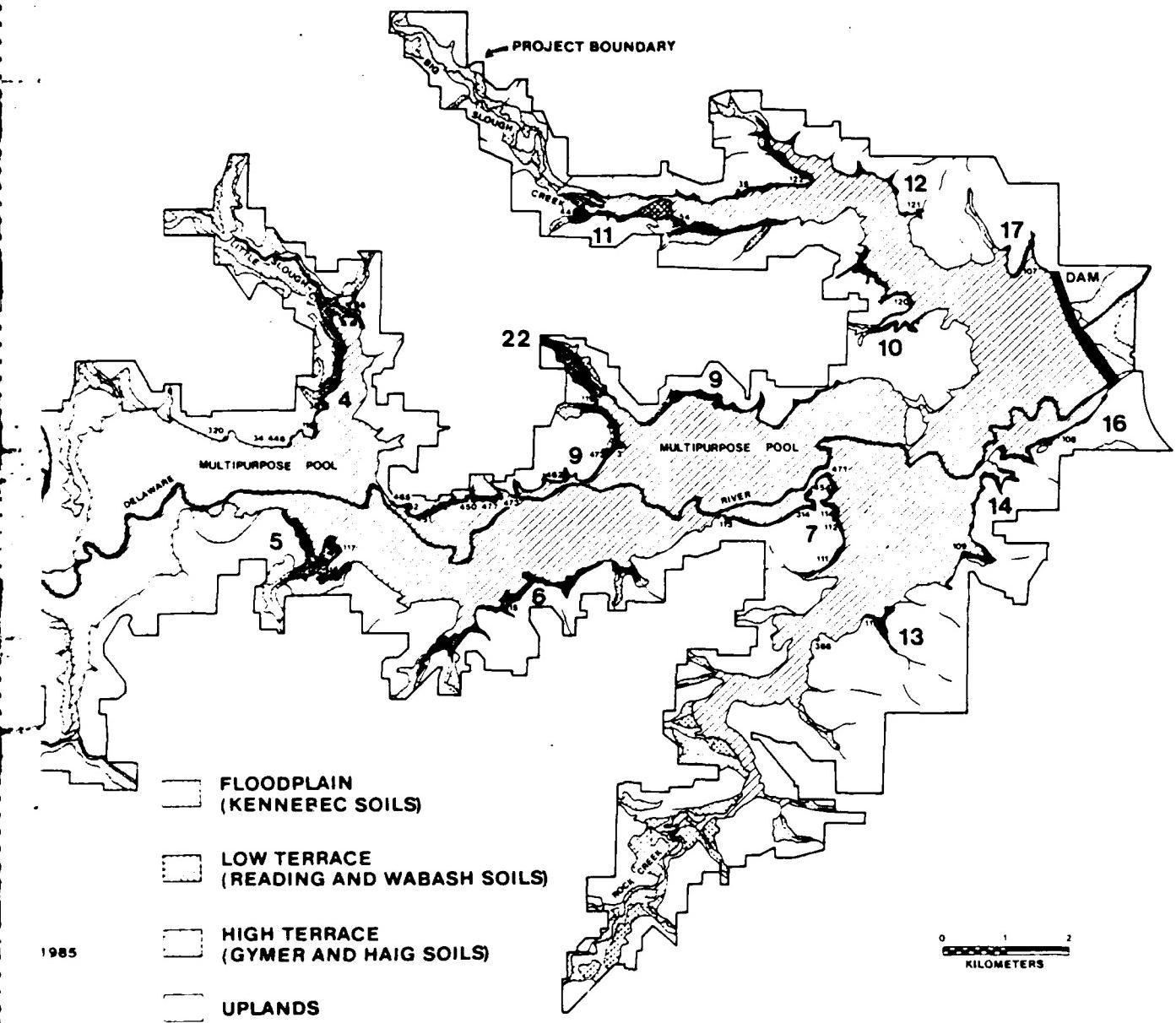


Figure 3. Location of areas surveyed and sites located during the 1985 survey and testing program at Perry Lake.

Table 4. Survey Areas and sites investigated in 1985 at Perry Lake.

SURVEY AREA	ACRES SURVEYED	SITES RECORDED	SURVEY AREA	ACRES SURVEYED	SITES RECORDED
1	120	14JF423			14JF44 14JF54 14JF55*
					14JF56*
					14JF122 14JF326*
2	75	None	12	30	14JF121
3	100	14JF106	13	20	14JF110
4	125	14JF38 14JF50 14JF66 14JF118	14 16 17 18	40 40 25 130	14JF109 14JF108 14JF107 None
5	75	14JF116	22	65	None
		14JF117	Northern Area		14JF101
6	105	14JF36 14JF115			14JF102 14JF103
7	75	14JF111 14JF112 14JF113 14JF114 14JF314 14JF454 14JF471			14JF104 14JF105 14JF123 14JF414 14JF417 14JF418 14JF419*
9	120	14JF3 14JF119 14JF450 14JF451 14JF452 14JF462 14JF464 14JF465 14JF467*			14JF470* 14JF483 14JF484
10	75	14JF120			
11	220	14JF12*			
		14JF35 14JF43*			

*Indicates site previously recorded within survey area but not relocated by ESA due to flooding or dense vegetation.

best visibility encountered above the shoreline and within the row crops at the northern edge of Bowies Branch. Cropland consisted of mature corn and milo, and a recently harvested hay field.

The inventory of this area resulted in the relocation of only one previously located site, 14JF423. This site is located at the eastern edge of the survey area on the T-1 terrace of Bowies Branch. Two historic sites are recorded on the 1899 Jefferson County Plat immediately adjacent to and outside of the survey area. Historic artifacts recovered from 14JF423 probably relate to the W.M. Boles residence located immediately to the north. The second historic site, the J. Armstrong residence, was apparently destroyed by road construction.

Survey Area 2 is located on the western shoreline of Perry Lake opposite Survey Area 1. A total of 75 ac were inventoried and ground cover consisted of a dense tangle of weeds and brush. This meant that surface visibility was poor and varied from 0 to 40 percent, with areas of good visibility restricted to the shoreline. No sites were recorded in Area 2 but three previously recorded prehistoric sites (14JF511, 14JF448, 14JF449), and one potential historic site (W. G. Keech), are located just outside the project area boundary.

A total of 100 ac was investigated in Survey Area 3 located along the eastern shoreline of Perry Lake, just south of Survey Area 1. The area was surveyed beginning at the section line separating Ranges 17 and 18 and working east and north. The southern portion of Area 3 was also surveyed by Milton Feichert in 1979 (Witty 1982). Ground cover consisted of dense grass and weeds along the shoreline with forest cover on the adjacent side slopes. Surface visibility was generally poor but ranged from 20 to 80 percent. Areas of good visibility were restricted to the eroded shoreline. One historic site, 14JF106, was recorded at the base of an upland side slope.

Survey Area 4 is situated at the southern edge of the Old Town Public Use Area, extending eastward along the shoreline of Perry Lake into the narrow valley of Little Slough Creek. Surface conditions within this 125 acre tract ranged from eroded shoreline and mown grass within the western area, to row crops in the central portion, and to dense weeds, brush and trees at the eastern edge. Overall, surface visibility ranged from about 20 to 50 percent.

One new site, 14JF118, and two previously recorded sites, 14JF38 and 14JF10, were located within the survey area. Another site, 14JF66, was previously recorded in the area but has been destroyed by construction of a borrow pit. Site 14JF34 is located just outside the southwestern boundary of the survey area. Landforms occupied by these sites include the T-1 terrace and an upland side slope.

Survey Area 5 is located directly across the lake from Survey Area 1, just south of Highway 6. A total of 75 acres were surveyed. Ground cover consisted of dense weeds adjacent to the eroded shoreline and milo fields on the higher terrace and side slopes. Surface visibility was generally very good and ranged from 30 to 100 percent. Two new sites

were recorded, 14JF116 and 14JF117, both of which are Historic period sites that are situated on the T-1 terrace.

A total of 105 acres were investigated in Survey Area 6, which is located along the western shore of the lake, south of Survey Area 5. The area had been surveyed by Milton Reichart in 1979 (Witty 1982) and was resurveyed in 1985 to inventory any historic sites in the tract. The terrain is distinguished from the areas to the north by the steeper shoreline and the greater degree of erosion present. The shoreline in this tract widens and slopes more gently near the mouths of the six intermittent streams which drain the uplands. The upland divides between the intermittent streams are severely eroded and 10 to 20 ft high escarpments are present in places. Surface cover ranged from bare rocky shoreline with oak hickory forest along the steeper slopes to dense brush and weeds within the small intermittent stream valleys. Surface visibility ranged from 20 to 100 percent.

The survey of Area 6 resulted in the relocation of one previously recorded site, 14JF36, and the discovery of new site, 14JF115. Site 14JF36 is situated on the T-1 terrace, while 14JF115 is located on a colluvial foot slope. No evidence of the M. O. Bighorn historic site, recorded in the survey area on the 1899 Jefferson County Plat, was found.

Survey Area 7 is located along the western shore of Perry Lake about a mile south of Survey Area 6. It consists of 75 acres of eroded shoreline along a peninsula which separates the main stem of Perry Lake from Rock Creek within the Delaware Area of Perry State Park. Ground cover varied from bare shoreline and freshly mown grass along the low terrace to weedy vegetation and oak-hickory forest on the steeper side slopes. Surface visibility was generally good, ranging from 40 to 100 percent.

Results of the survey in this area include the discovery of four new sites (14JF111, 14JF112, 14JF113 and 14JF114) and the relocation of three previously recorded sites (14JF314, 14JF454 and 14JF471). One of the sites is located on the T-1 terrace and six are on upland slopes. Site 14JF70 is located just outside the survey area boundary on a low terrace. Site 14JF6 is located just off the shoreline and is under the multipurpose pool of Perry Lake.

A total of 120 ac were investigated within Survey Area 8 located along the eastern shore directly across the lake from Survey Areas 6 and 7. Much of this tract is characterized by steep rocky shoreline. Ground cover ranged from bare shoreline at the edge of the lake to dense grass, brush and forested side slopes on the upper portion of the shoreline. Surface visibility was generally fair and ranged from about 30 to 80 percent. Much of the lower shoreline was flooded when the multi-purpose pool reached 895 ft above rsl during the course of the investigations.

Results of the survey of this area include the discovery of site 14JF119 and the relocation of previously recorded sites 14JF3, 14JF450, 14JF451, 14JF452, 14JF453, 14JF454, 14JF463, 14JF471 and 14JF473. Four

of these sites are located on the T-1 terrace and six are located on upland slopes. Four other sites, 14JF467, 14JF468, 14JF469 and 14JF486, are located within or immediately adjacent to the survey area but were completely obscured by flooding of the shoreline.

Survey Area 10 consists of 75 ac located along the western bank of the Slough Creek arm of Perry Lake about a half mile north of the main stem of the lake. Ground cover consisted of bare shoreline, mown grass and dense weeds throughout the area. Surface visibility was generally good, ranging from 40 to 60 percent. The survey of this tract resulted in the discovery of site 14JF120, a bulldozed historic farmstead eroding out of the disturbed T-1 terrace.

A total of 110 acres were investigated within Survey Area 11, which is located along both shores of the Slough Creek arm of Perry Lake about 1 mile north of Survey Area 10. The northern portion of Survey Area 11 was not surveyed beyond the section line dividing Sections 10 and 15 in T10S, R18E. Much of the shoreline was flooded when the multipurpose pool crested at 896.0 ft during the time of the survey. Ground cover consisted primarily of dense weeds and brush and surface visibility ranged from 20 to 40 percent.

The results of the survey include the discovery of site 14JF121 and the relocation of previously recorded sites 14JF35, 14JF44 and 14JF54. One is located on the T-1 terrace and the remainder are situated on upland side slopes. Primarily due to the shoreline flooding, previously recorded sites 14JF12, 14JF43, 14JF55, 14JF56 and 14JF326 were not relocated. Most of these are located immediately adjacent to the shoreline and occur on the T-0 floodplain or T-1 terrace.

Survey Area 12 is located on the western bank of the Slough Creek arm of Perry Lake about 500 m south of Survey Area 11. The area covers only 30 acres of shoreline. Ground cover ranged from the bare shoreline to dense brush, weeds and forest cover along the slopes. Surface visibility was generally fair, ranging from about 30 to 70 percent. Only one site, 14JF121, was recorded in the area. It is a limestone section wall located on an upland side slope. No previously recorded sites are located in the survey area, although two limestone wells were discovered about 150 m apart just outside the survey boundary at 9.0 ft above msl. They may be associated with the Ludwig Fisher residence which is shown in the vicinity on the 1899 Plat of Jefferson County. However, no structure is indicated at this location on the 1916 Plat of Jefferson County when Freda Fisher owned the property. The wells therefore probably post-date the nineteenth century.

Within Survey Area 13, only 20 ac were investigated. The area is located along the southwestern shore of the Rock Creek arm of Perry Lake within the Jefferson Point Area of Perry State Park. This location was also surveyed by Witty ('98:11) in 1979, but was reinvestigated for historic sites because of its small size, good visibility and easy access. Ground cover consisted of mown grass and sparse trees. Surface visibility was very good and ranged from 40 to 100 percent. Site 14JF122 was recorded as a result of the survey. It is located on the T-1 terrace and consists of a destroyed farmstead.

A total of 40 acres were investigated in Survey Area 14. This area is located along the southern shore of the Rock Creek Area of Perry Lake directly across from Survey Area 7. Surface cover consisted primarily of mown grass and weeds above the denuded shoreline and surface visibility ranged from 20 to 100 percent. Only one site, 14.F109, was discovered within the survey area. It is a destroyed farmstead located on the T-1 terrace. Another historic structure is indicated within the survey area on the 1899 and 1916 Jefferson County Plat maps. These two maps indicate that the structure was owned by J. V. Verable and P. Copps, respectively. No evidence of the structure was encountered during the survey and it is apparently under the multipurpose pool of Perry Lake.

Survey Area 16 consists of 40 ac of steep, severely eroded shoreline at the western edge of Perry Dam. Surface cover consisted primarily of the bare rocks along the shoreline and visibility was excellent, ranging from 70 to 100 percent. Only one site was recorded, 14.F108, a limestone section wall located on a side slope above the shoreline. No evidence of previously recorded site 14.F7, located just off the shoreline, was encountered during the survey.

A total of 25 acres were investigated within Survey Area 17. It is located along the eastern shoreline of Perry Lake just north of the dam and across from Survey Area 16 within the Perry Public Use Area. The area has been heavily developed for recreation and is traversed by several access roads. Ground cover consisted primarily of mown grass above the bare, rocky shoreline and surface visibility ranged from 40 to 80 percent. Site 14.F107 was recorded during the survey. It is a destroyed farmstead located on an upland slope.

Within survey Area 18, a total of 130 ac were investigated. This area is located north of Survey Area 2 along the western bank of the Delaware River. Ground cover consisted of very dense weeds and flooded shoreline with up to 6 inches of standing water in low-lying areas. Surface visibility was poor, ranging from 20 to 40 percent and no sites were recorded in this area.

Survey Area 22 is located immediately adjacent to Survey Area 9 and consists of 65 ac of T-1 terrace and side slopes within the valley of a small unnamed intermittent stream. Ground cover consisted of grass, weeds, hay fields and mature corn fields. Visibility was generally poor varying from 20 to 40 percent. No sites were recorded within this survey area.

The Northern Survey Area is located in the northern portion of the Perry Lake project area in the vicinity of Valley Falls, Kansas. A total of 1300 acres were investigated in this area consisting almost exclusively of plowed fields planted in beans, milo or corn. Acreage was surveyed within Sections 13, 14, 23 and 24 in T8S, R18E and Sections 15, 18, 19, 32 and 33 in T8S, R17E of the Delaware Township. Surface visibility was generally very good and varied from 40 to 100 percent.

The results of the survey here include the discovery of six new sites, 14.F101, 14.F102, 14.F103, 14.F104, 14.F105 and 14.F106, and the

relocation of six previously recorded sites (14JF414, 14JF415, 14JF417, 14JF418, 14JF483 and 14JF484). Three of these sites are located in the on the terraces above the Delaware River and nine are on the upland slopes overlooking the valley. Two additional sites (14JF419 and 14JF470) are recorded within the area but were not relocated. The area of 14JF419 was in a mature corn field where visibility was not good. None of the located sites in the northern area is situated on the floodplain and therefore, this floodplain site may have been obscured by recent siltation. 14JF470 was recorded by Milton Reichart as a layer of mussel shell eroding out of a cutbank of the Delaware River in December of 1976 and January of 1977. No evidence of the site was observed during the present survey and it has apparently been destroyed by erosion.

In summary, an intensive cultural resources inventory of 2740 acres of land owned by the U.S. Army Corps of Engineers was conducted in the summer of 1985. The area inventoried is divided between 18 separate areas, most of which are located along the shoreline of Perry Lake.

A total of 50 sites were located as a result of the inventory. Twenty-seven sites (14JF3, 14JF35, 14JF36, 14JF38, 14JF44, 14JF50, 14JF54, 14JF66, 14JF314, 14JF414, 14JF415, 14JF417, 14JF418, 14JF423, 14JF450, 14JF451, 14JF452, 14JF454, 14JF462, 14JF464, 14JF465, 14JF471, 14JF472, 14JF473, 14JF477, 14JF483, and 14JF484) have been previously recorded. The 23 newly recorded sites include 14JF101 through 14JF123. None of the sites were located on the T-0 floodplain. Sites 14JF38, 14JF50, 14JF54, 14JF66, 14JF101, 14JF104, 14JF118, 14JF417 and 14JF423 are situated on low terraces, while sites 14JF3, 14JF111, 14JF116, 14JF117, 14JF450, 14JF464, 14JF473 and 14JF477 are located on high terraces. 14JF35, 14JF36, 14JF44, 14JF102, 14JF103, 14JF105, 14JF106, 14JF107, 14JF108, 14JF109, 14JF110, 14JF112, 14JF113, 14JF114, 14JF115, 14JF119, 14JF119, 14JF120, 14JF121, 14JF122, 14JF123, 14JF314, 14JF414, 14JF415, 14JF418, 14JF451, 14JF452, 14JF454, 14JF462, 14JF465, 14JF471, 14JF472, 14JF483 and 14JF484 are on the uplands. A discussion of each site investigated and the results of the preliminary test investigations are presented below. This information is followed by a discussion of sites 14JF34, 14JF320 and 14JF36f, at which intensive National Register test investigations were conducted.

RESULTS OF THE SURVEY AND PRELIMINARY TESTING AT FERRY LAKE

14JF3

14JF3 was reported as a multicomponent site by Jack Schock in 1965, although the cultural affiliations of the components represented were not identified. The site is located on a high terrace of the Delaware River valley, about 300 m east of the former channel of the Delaware River (Figure 3). When relocated in 1985, the site consisted of a light lithic scatter along the denuded shoreline of Perry Lake covering an area of approximately 900 sq m. The site probably extends further west

beneath the multipurpose pool of Perry Lake and is in an area that is currently used as a campground.

The 1985 investigation included an intensive surface collection and the excavation of one shovel test. The shovel test was placed at the eastern edge of the site at about 900 ft above msl (Figure 4). No subsurface artifacts were encountered within the shovel test, or within the eroded cutbank along the western and northern edge of the site.

The soils at 14JF3 consist of the Gymer silt loam (Dickey et al. 1977). This is a well drained, moderately sloping soil, formed in silty sediments on lower side slopes and footslopes of high Pleistocene terraces. The shovel test placed at the upper portion of the shoreline showed that the A horizon of the soil is largely deflated but the dark brown silty clay loam B1 horizon remains intact to a depth of 30 cm. At the water's edge, the upper soil horizons have been completely removed by wave action and only the yellowish brown silty clay loam B3 horizon remains. Given this degree of erosion, there is little potential for intact cultural deposits at the site.

The artifact assemblage recovered from 14JF3 consists of 12 pieces of lithic manufacturing debris recovered from the surface. These include one chunk, three flakes, three chips and five pieces of shatter. All are locally derived tan, brown or gray cherts and none appear to have been heated.

14JF3 consists of a small, sparse lithic scatter located on a high terrace along the shoreline of Perry Lake. The site was originally reported as a multicomponent prehistoric occupation by Schock, although the cultural affiliations were not identified. No diagnostic artifacts were recovered during the present investigation and the cultural affiliation of the site remains unknown. Although the B1 horizon of the Gymer soil remains intact at the upper portion of the shoreline, no intact cultural deposits were encountered and the site has been largely destroyed by shoreline erosion. Other than limited chipped stone tool manufacture, little can be said regarding the prehistoric activities conducted at the site. The restricted size and low density of the lithic scatter suggests that the site served as a small, temporary camp. Given the degree of erosion and small artifact assemblage recovered, 14JF3 is not considered eligible for nomination to the National Register and no further archaeological testing or management is recommended.

14JF35

14JF35 was originally recorded by Jack Schock in 1965 as a Woodland occupation based on the recovery of several grit tempered pot sherds and one corner-notched point. At that time, the site was in a cultivated field and was divided into two separate areas located on both sides of Slough Creek. The portion to the west of Slough Creek is now under the multipurpose pool of Perry Lake. The area of 14JF35 to the east of Slough Creek is situated on an upland side slope along the shoreline of

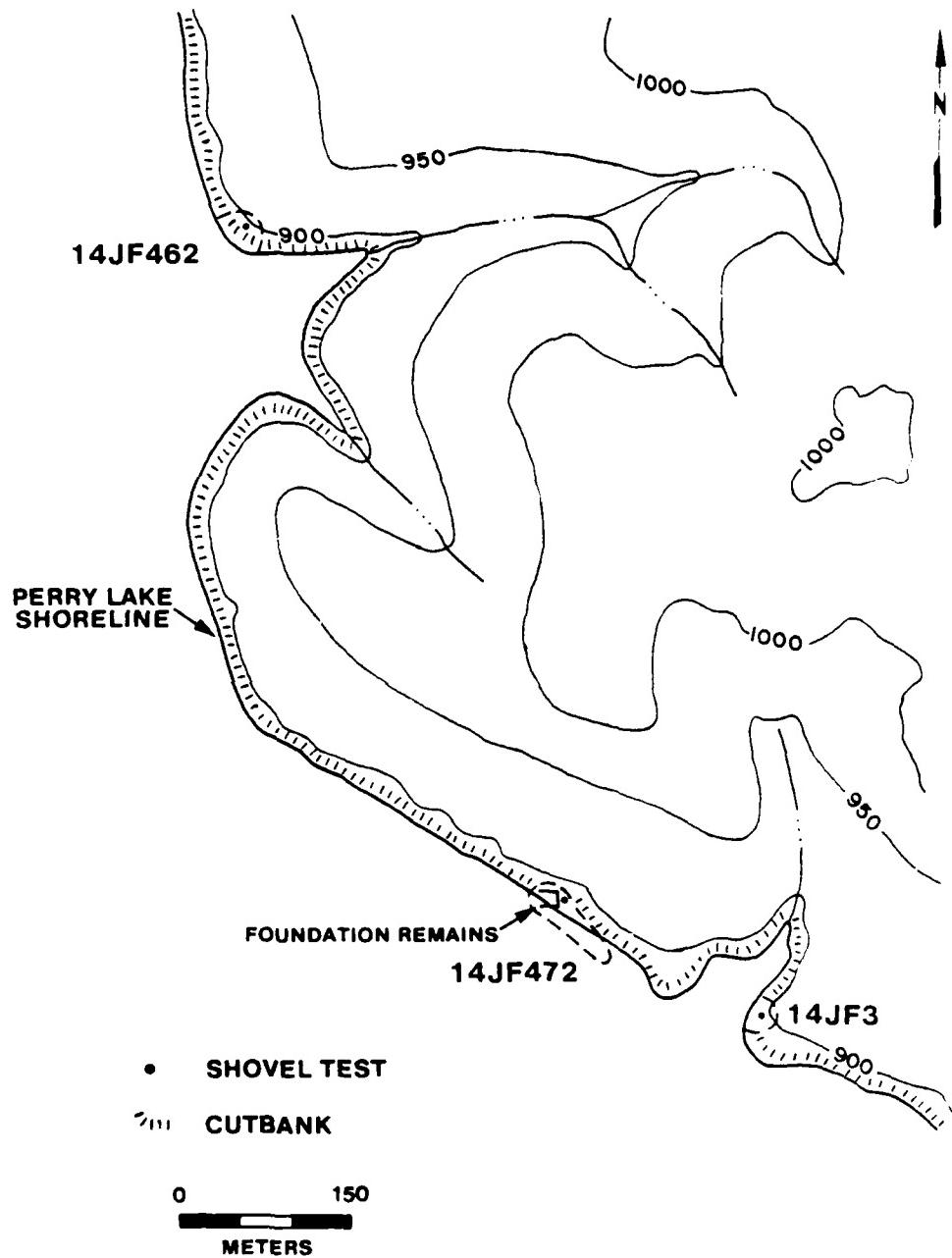


Figure 4. Location of 14JF3, 14JF462 and 14JF472.

Perry Lake (Figure 3). During the present survey, this area was covered with dense brush and weeds above a narrow strip of denuded, eroded shoreline. Since only two flakes were recovered from the surface of the shoreline, the areal extent of the site is unknown. It probably extends to the west below the level of the multipurpose pool.

The 1985 investigation at 14JF35 included an intensive surface collection and the excavation of two shovel tests (Figure 5). The lake level was at 895.0 ft and much of the shoreline was flooded. The shovel tests were placed along an east to west transect 10 m apart across the upper shoreline. No subsurface cultural deposits were encountered within these tests or at the edge of the eroded shoreline.

The soil at 14JF35 consists of the Martin silt clay loam. This is a deep moderately sloping soil on upland side slopes which formed in parent material derived from weathered, medium textured shale (Dickey et al. 1977:13). The Ap and Bl horizons of the soil at the site have been removed by erosion. The very dark brown silt clay loam B2lt horizon is exposed at the surface and continues for at least 30 cm below surface where the B2t horizon was encountered.

Very little evidence of site 14JF35 was encountered during the 1985 survey. Only two chert flakes were recovered from the eroded shoreline and no evidence of subsurface deposits was discerned within the shovel tests. The site is apparently largely under the multipurpose pool of Perry Lake, although the high water level in August of 1985 obscured the shoreline between 891.5 and 895.0 ft. At any rate, the shoreline in the area has been deflated by erosion and there is little potential for buried cultural deposits. Therefore, the site is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF36

14JF36 was initially recorded as a prehistoric site by Jack Schock in 1965. At that time, the site was located in a cultivated field about three-fourths of a mile west of the channel of the Delaware River on an upland slope (Figure 3). The cultural affiliation of the site was not determined. The site was reported to be completely inundated in May of 1977 during the investigations conducted by Iroquois Research Institute. When relocated in 1985, no evidence of the prehistoric component was observed within the site area but five largely destroyed historic foundations were present between an access road and the shoreline (Figure 6). Since these structures are located in the vicinity of 14JF36, they were given the same site number. Therefore, 14JF36 consists of both historic and prehistoric components within an area of about 7000 sq m.

An intensive survey was conducted within the site area during the 1985 investigations. A relatively light scatter of historic debris was encountered across the surface of the site. A representative sample of ceramics, window glass, and metal artifacts was collected. Five shovel tests were excavated, one at each of the structures, but no evidence of

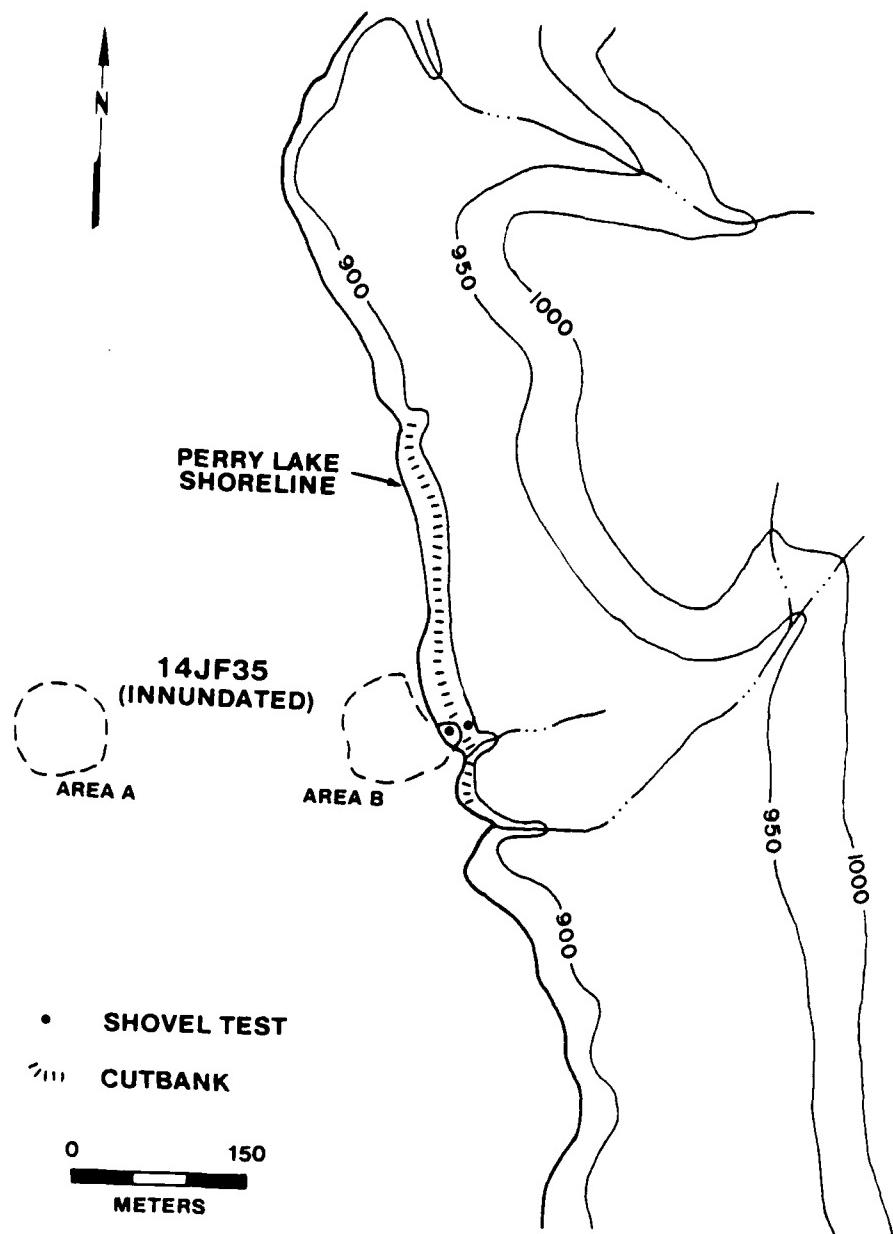


Figure 5. Location of 14JF35.

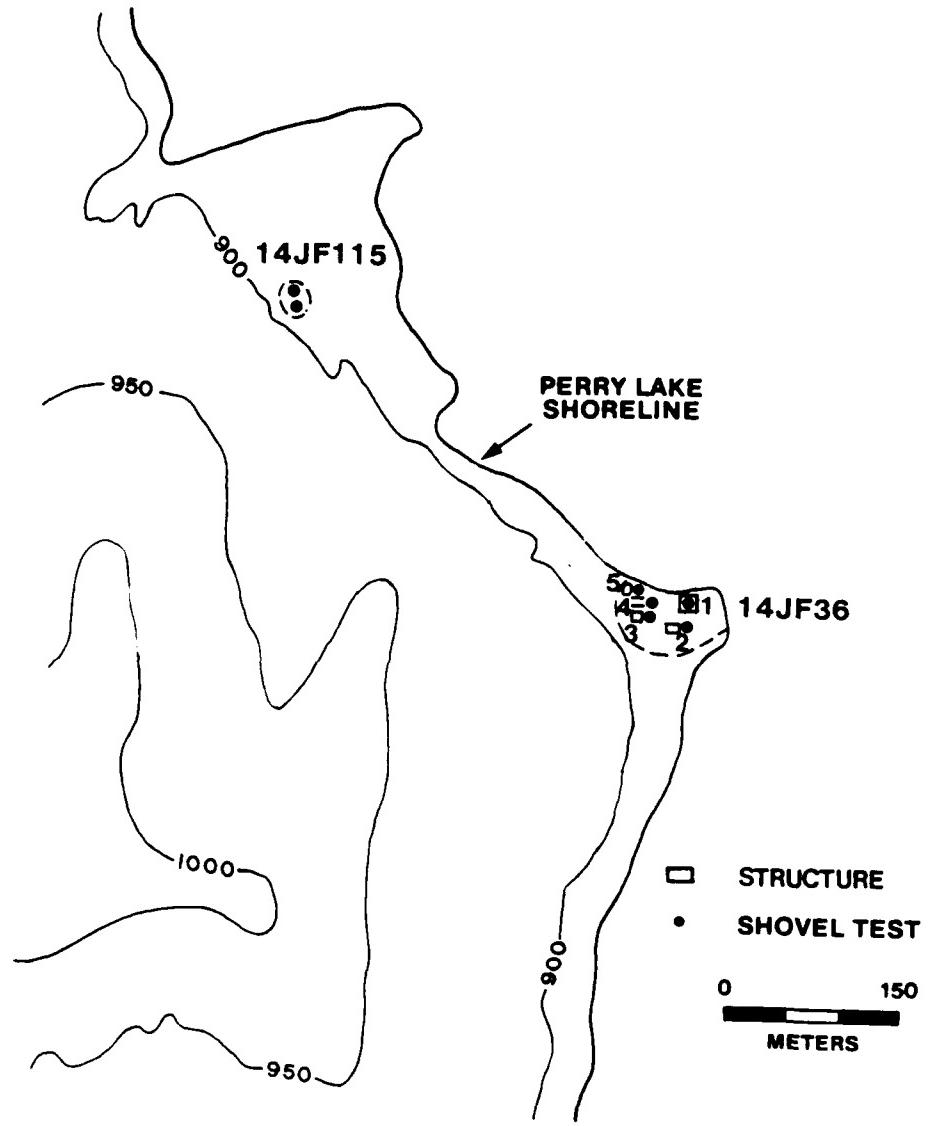


Figure 6. Location of 14JF36 and 14JF115.

intact subsurface deposits was discovered. The foundations include two concrete slabs measuring 3.5 by 7.0 m and 1.4 by 4.5 m. Also present were a pair of parallel cement foundation walls, measuring 5.5 m in length, 1 m in height and located 1 m apart. A limestone and concrete foundation of undetermined size measuring at least 4 by 6 m and the remains of a bulldozed concrete foundation of undetermined size complete the inventory. All appear to be of relatively recent origin and do not appear to be associated with the structure located in the area on both the 1899 and 1916 Plats of Jefferson County. Apparently, the earlier structure has been completely destroyed.

The historic artifacts recovered from 14JF36 include two ceramic whiteware body sherds, one piece of window glass, one spark plug, a piece of iron wire, one metal fastener, a copper coin (penny) and one piece of brick. Although the whiteware dates between 1860 and 1910, none of the artifacts appear to date prior to the turn of the century. The spark plug and coin postdate the 1940s.

Site 14JF36 was originally recorded as a prehistoric site of unknown cultural affiliation. During the 1985 survey, no evidence of the prehistoric component was observed within the site area but five destroyed, recent historic foundations were located. These have been designated as an historic component of the site and appear to represent a commercial complex. The foundations are too recent to be associated with the structure recorded in the site area on the 1899 and 1916 Jefferson County Plats. Apparently, the earlier structure has been destroyed by the subsequent residential or commercial development in the area. Six structures are shown at this location on the 1958 U.S. Army Corps of Engineers base map of the project area; structures which were destroyed during lake development. Intact, subsurface cultural deposits are not present 14JF36 and the site is not eligible for the National Register. No further testing or archaeological management is recommended.

14JF38

14JF38 was initially recorded in 1965 by Jack Schock as a scatter of prehistoric debris including ceramics, lithic debitage and burned rock. Both Central Plains and Woodland cultural affiliations were inferred from the artifacts recovered. The site was also surface collected in November of 1980 during a U.S. Army Corps of Engineers Ranger Seminar when two point fragments and manufacturing debris were recovered. The site is located at the southeastern edge of the former townsite of Ozawkie, Kansas on a T-1 terrace about 300 m north of the former channel of Little Slough Creek (Figure 3). This area is currently used for recreation and serves as a campground. Except for the shoreline, which was exposed by erosion, ground cover consists of mown grass which obscured most of the surface (Figure 7). Historic debris, associated with a destroyed farmstead, was generally restricted to the northern portion of the site where the foundation remains of two outbuildings, a house and a silo are located. Structures are recorded at this location on both the 1899 and 1916 Jefferson County Plats.

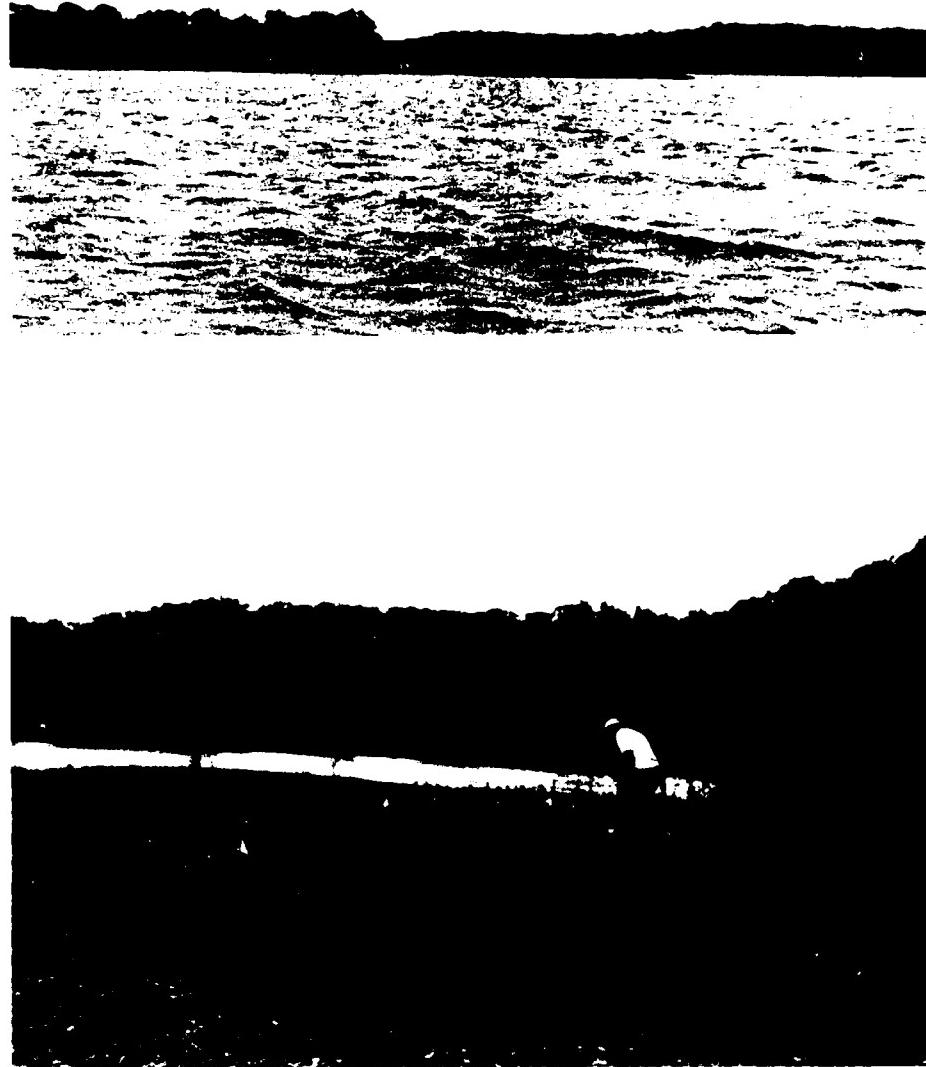


Figure 7. General views of sites 14.JF38 and 14.JF44: view to the east of 14.JF38 across Perry Lake (upper); view to the southwest of 14.JF44 along the shoreline (lower).

The 1985 investigations at 14JF38 consisted of an intensive survey and the excavation of four shovel tests placed at 20 m intervals along an east to west transect (Figure 8). A light scatter of prehistoric artifacts and a moderate scatter of historic debris covered an area of approximately 10,000 sq m. A 100 percent sample of prehistoric material and a representative sample of historic items were recovered. Prehistoric cultural material was also recovered below the surface in Shovel Tests 1 and 2. A small rim sherd, one edge-modified flake and one piece of debitage were recovered between 5 and 30 cm below surface in Shovel Test 1. Charcoal was present at 20 cm below surface in Shovel Cut 2. Shovel Tests 3 and 4 were sterile.

The artifact assemblage recovered from 14JF38 is small and contains 17 prehistoric and seven historic items. Prehistoric material includes two ceramic sherds, seven chipped stone tools and eight pieces of lithic manufacturing debris. Historic artifacts consist of two pieces of bottle glass and five ceramic fragments. The prehistoric ceramics are represented by one small sand or grit tempered rim sherd recovered from Shovel Test 1 (Figure 9a) and one small, badly eroded, coarse sand tempered body sherd found on the shoreline. Both specimens are too small or eroded for detailed analysis but appear to represent Woodland vessels, based on their temper type and thickness. The body sherd may have been cordmarked.

Chipped stone tools include two flake scrapers and four edge-modified flakes recovered from the surface and one edge-modified flake recovered from Shovel Test 1. Manufacturing debris consists of five chunks and two pieces of shatter from the surface and one piece of shatter from Shovel Test 1. All of the chipped stone tools from 14JF38 are local tan or gray chert and only one chunk appears to have been heated.

Historic bottle glass fragments include one neck and lip section of an aqua-colored food, prescription or proprietary bottle (Figure 9b). Based on the hard finished neck, it probably dates to the late nineteenth or early twentieth centuries (ca. 1880-1910) (Rosenberg and Kvietok 1982). The other bottle fragment is a piece of clear melted glass dating after 1880. The historic ceramics consist of two fragments of whiteware dating between 1830 and 1910, one stoneware fragment and a porcelain fragment of the interior liner of a mason jar lid dating after 1869. The base of a plate or saucer was also recovered which was probably manufactured by Taylor, Smith and Taylor of East Liverpool, Ohio after 1935, based on the incomplete maker's mark (Gates and Omerod 1982:274).

14JF38 contains both prehistoric and historic components. The prehistoric occupation is represented by a light scatter of ceramic and lithic debris and is partially intact at the southwestern edge of the site where subsurface deposits were encountered. The coarse sand or grit tempered ceramics indicate a Plains Woodland and cultural affiliation, possibly associated with the Grasshopper Falls phase (Reynolds 1979). The artifacts recovered indicate that ceramic and chipped stone tool manufacture were conducted at the site along with light-duty cutting and scraping tasks. The projectile points recovered

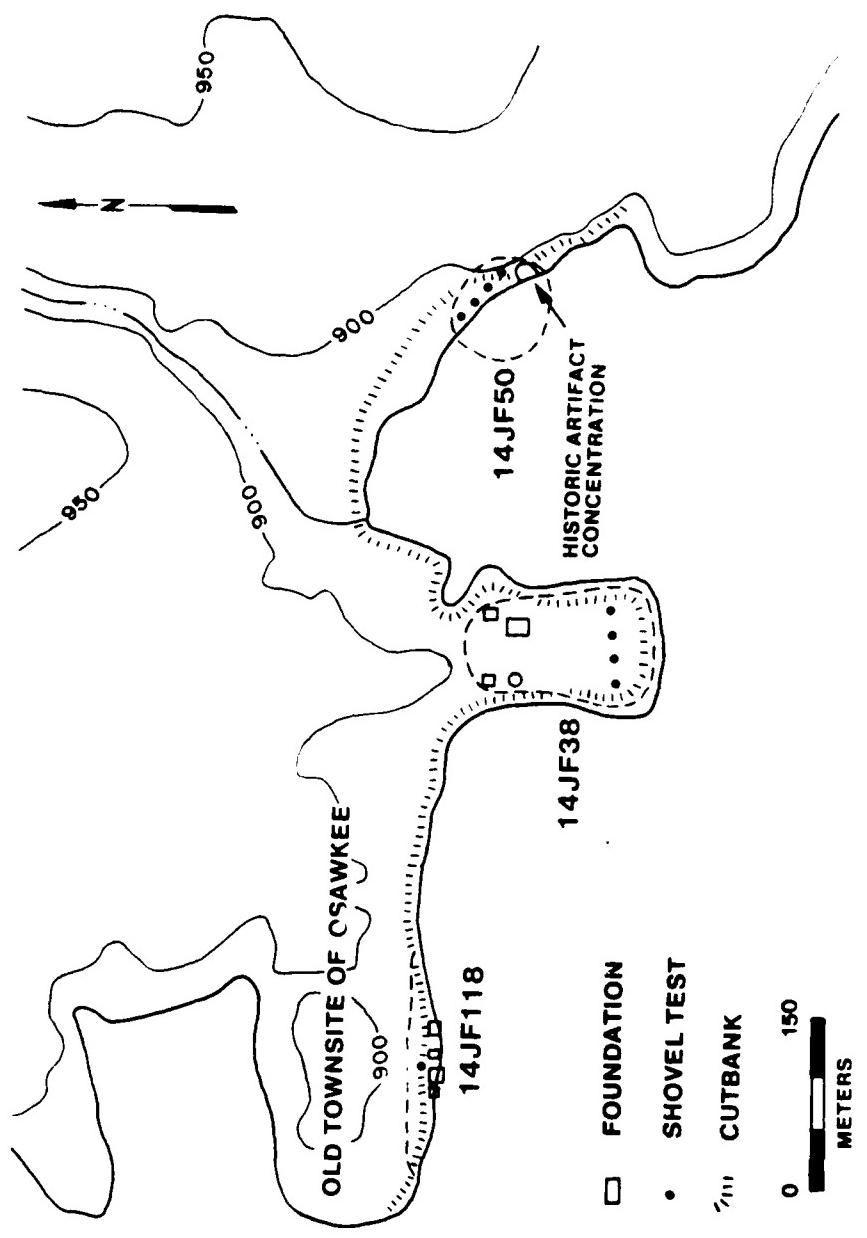


Figure 6. Location of 14JF38, 14JF50 and 14JF118.

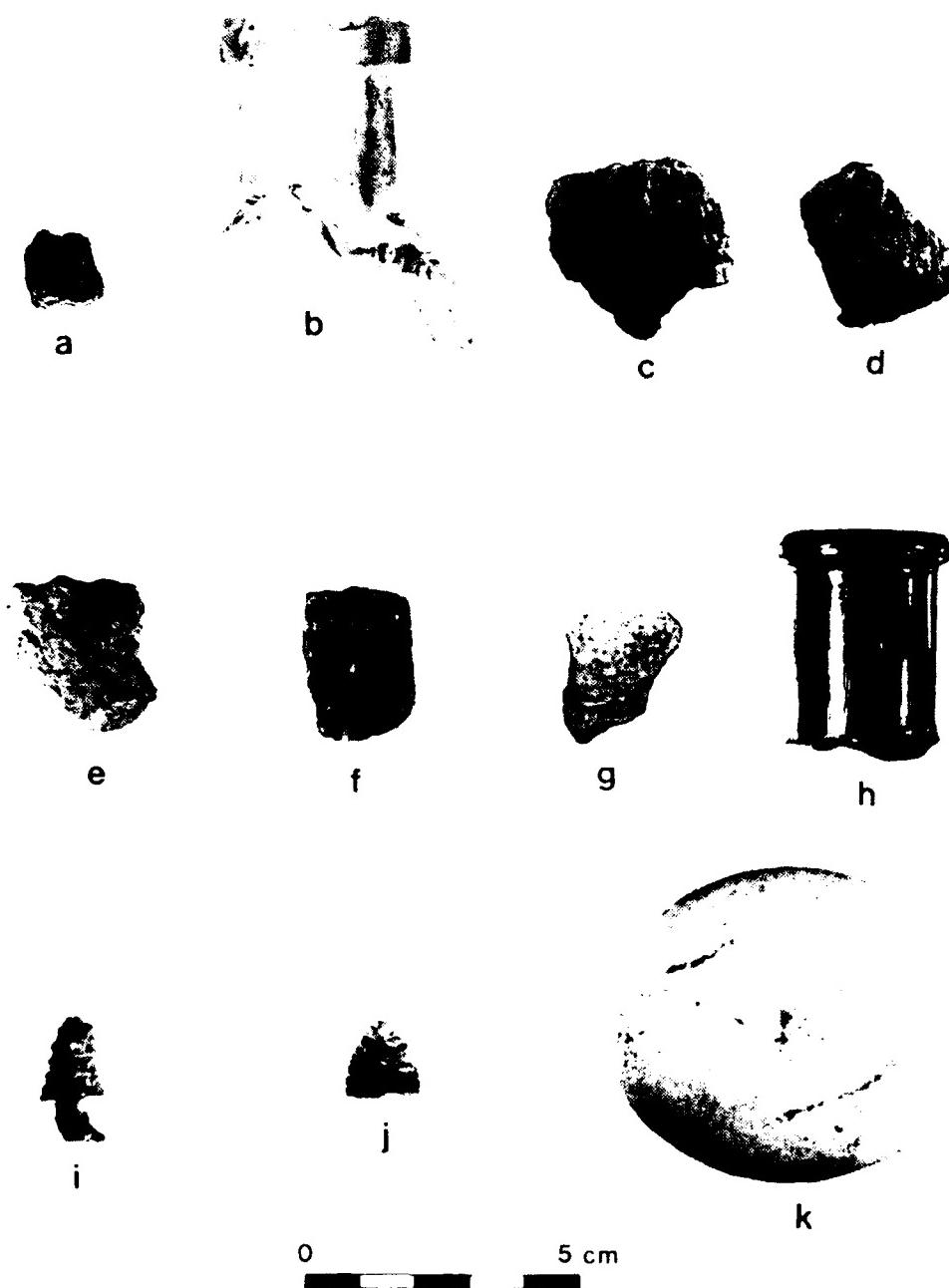


Figure 9. Artifacts recovered from sites 14JF38, 14JF44, 14JF50, 14JF54 and 14JF105: a, rim sherd from 14JF38; b, bottle neck from 14JF38; c-e, body sherds from 14JF44; f-g, body sherds from 14JF50; h, bottle neck from 14JF50; i, projectile point from 14JF54; j, projectile point from 14JF105; k, hammerstone from 14JF105.

during earlier surveys also indicate that hunting and butchering activities were performed. Overall, the limited artifact assemblage suggests that the site was occupied prehistorically as a small temporary camp.

The historic component at 14JF38 consists of glass and ceramic artifacts, as well as the foundation remains of a destroyed farmstead. An aqua bottle fragment recovered from the surface adjacent to the foundations indicates the site was occupied near the end of the previous century. The Jefferson County Plat of 1890 shows a structure at this location owned by W. C. Fowler. The 1916 Plat indicates that the land was sold to A. O. Patterson whose residence was also located at the site. The structures represented by the foundations at the site were still standing prior to the development of Perry Lake when they were purchased from Mildred E. McLean by the government and demolished.

In summary, the 1985 investigations at 14JF38 recovered a small number of prehistoric and historic artifacts from the surface of the site. Prehistoric artifacts were also recovered from the upper 30 cm of the intact A horizon of the Beading soil in the southwestern portion of the 14JF38. It is recommended that further testing be conducted at the site to determine the extent of the subsurface deposit and to better define the cultural affiliation of the prehistoric component, as well as to assess the integrity of the historic foundation remains. This testing should also determine the site's National Register eligibility.

14JF44

14JF44 was also recorded by Jack Schock in 1965 and is located 800 m north of the confluence of an unnamed intermittent stream and Slough Creek on an upland slope (Figure 3). The site was originally divided into three discrete scatters recorded as Areas A, B and C, although the cultural affiliation of these areas was not determined. Presently, the site is located within the Slough Creek arm of Lake Perry at the northern edge of the multipurpose pool. Surface cover consists of dense grass and weeds and surface visibility was poor except along the shoreline (Figure 7). A fairly dense scatter of prehistoric debris and a very light scatter of historic material were encountered within Area A of the site, covering an area of about 300 sq m. No artifacts were encountered within Areas B or C which were outside of the survey area (Figure 10).

The 1985 investigations at 14JF44 included an intensive surface collection and the excavation of one shovel test. The surface collection recovered 100 percent of the observed prehistoric and historic artifacts. A small concentration of 11 body sherds was encountered within a 2 by 2 m area of the shoreline. Most of these sherds are largely intact indicating that they had only recently been exposed by shoreline erosion and were not subjected to extensive wave action. Given the narrow width of the shoreline and the small size of the artifact scatter only one shovel test was excavated. The shovel test was placed at the upper portion of the shoreline, at an elevation of about 900 ft above msl, but no subsurface artifacts were recovered.

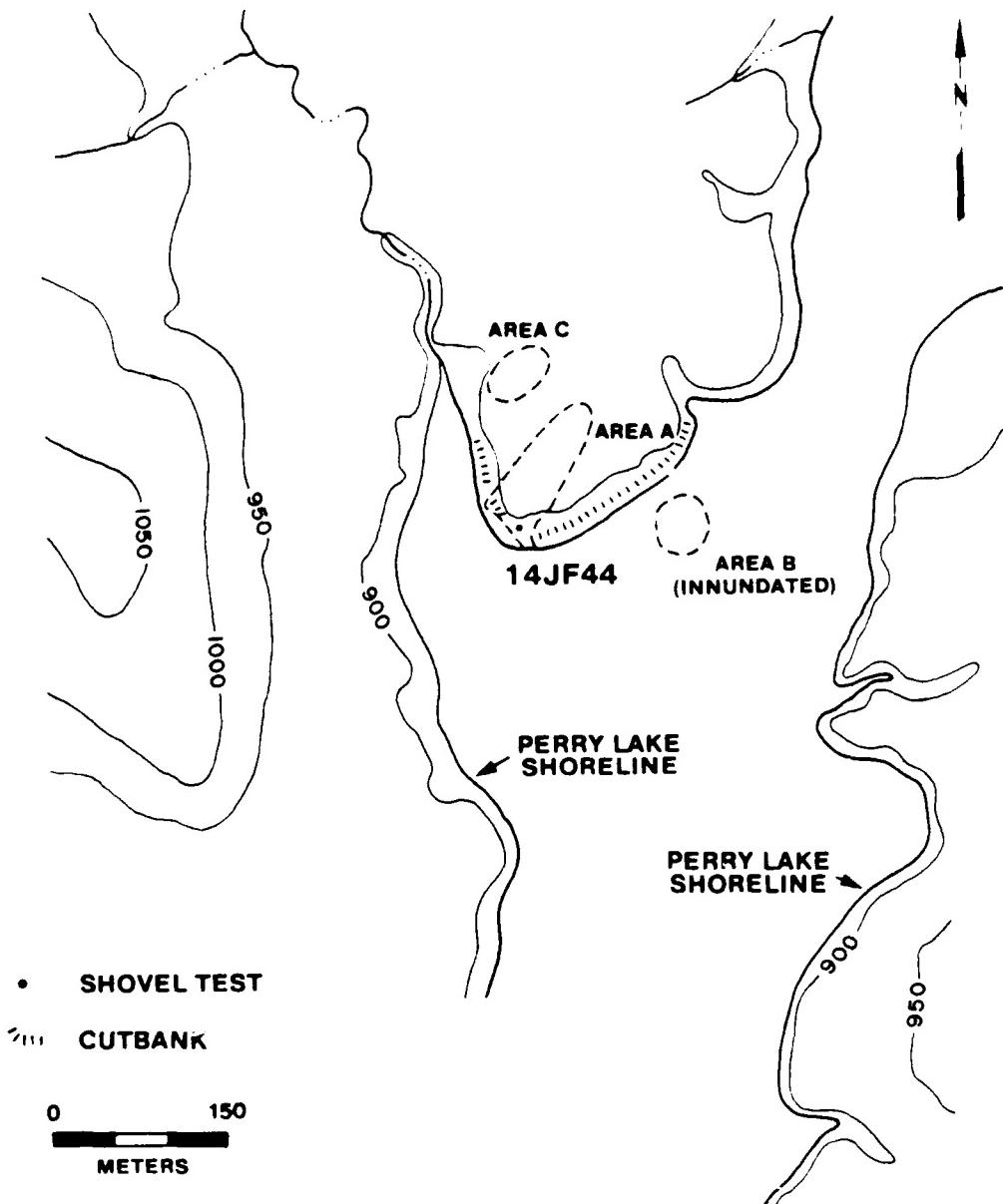


Figure 10. Location of 14JF44.

However, the presence of the intact A and B1 horizons of the Martin soil indicate that intact cultural deposits are most likely present above the eroded shoreline, where the underlying subsoil is exposed at the surface and the cultural deposit has been completely deflated.

The artifact assemblage recovered from 14JF44 contains 103 prehistoric and two historic artifacts. Prehistoric material includes 13 body sherds, five chipped stone tools, 75 pieces of lithic manufacturing debris and 10 pieces of unworked stone. The 13 body sherds are grit tempered and range in maximum size from 1.9 to 3.3 cm. (Figure 9c-e). Thickness varies from 6 to 11 mm within the sample. Exterior surface treatment consists of three cordmarked sherds, two smooth or plain sherds and seven with smoothed-over cordmarked surfaces. The remaining sherd lacks the exterior surface. All of the interior surfaces are smoothed and the sherds appear to represent Plains Woodland vessels.

The chipped stone tools consist of one small bifacial blank, a biface fragment, a flake scraper and two edge-modified flakes. Lithic manufacturing debris include three chunks, 31 flakes, 26 chips and 15 pieces of shatter. Except for one chip of a non-local white chert, all of the debitage from 14JF44 is locally derived tan, brown or gray chert varieties, none of which appear to have been heated.

The historic artifacts recovered from the site include an iron hook and a piece of scrap metal, neither of the which is age-diagnostic. No evidence of the structures located to the east of the site on the 1899 and 1916 Plats of Jefferson County was encountered during the survey. The farmstead was owned by W. T. Bledsoe during that period. The structures were located to the east of the site at about 900 ft above msl according to the 1958 U.S. Army of Corps of Engineers base map. They were purchased from W. H. Bledsoe and destroyed during lake development.

14JF44 consists of a light to moderate scatter of prehistoric debris combined with a few historic artifacts was encountered at the edge of the shoreline. Subsurface deposits were not encountered within the shovel test, but the presence of intact soils at the upper shoreline and the generally good state of preservation for the ceramics exposed at the water's edge indicate that buried deposits are in the process of being deflated at the site.

The ceramics from the site consist of grit tempered plain and cordmarked sherds similar to those associated with the Plains Woodland, Grasshopper Falls phase in the project area (Reynolds 1979, Witty 1982). The lithics suggest that along with ceramic manufacture, bifacial tool production was an important activity, as most of the flakes and chips are bifacial trimming elements. The flake scraper and edge-modified flakes indicate that cutting and scraping tasks occurred as well. Overall, the prehistoric assemblage suggests that a relatively long-term residential occupation is represented rather than a special purpose extractive camp. Since 14JF44 has the potential for intact buried deposits and contained a relatively dense scatter of artifacts, further testing is recommended to determine its eligibility for the National

Register. These investigations should also attempt to locate and assess the integrity of the foundation remains of the Bledsoe farmstead that apparently remained within that family for over 60 years.

14JF50

14JF50 was recorded as a scatter of ceramics, burned rock, lithic debris and daub by Jack Schock in 1965. Artifacts recovered from the surface included thick cordmarked sherds, a ceramic pipestem, a serrated corner-notched projectile point and a polished celt fragment, indicating a Plains Woodland cultural affiliation. The site is currently situated on a T-1 terrace at the edge of the shoreline of Perry Lake within the Little Slough Creek inlet. It is located about 200 m east of site 14JF52 (Figure 3). Ground cover consisted of dense weeds and grass above the denuded shoreline and surface visibility was generally poor.

The 1985 investigations included an intensive surface collection and the excavation of four shovel tests. The surface collection revealed a light to moderate scatter of both prehistoric and historic cultural debris. Prehistoric materials were generally restricted to the eroded shoreline to the northwestern portion of the site and, as originally reported, probably extend under the multipurpose pool. Historic artifacts were largely concentrated within a 10 by 20 m area at the southeastern edge of the site (Figure 8). A 100 percent sample of prehistoric artifacts and a representative sample of historic debris were collected within an area of nearly 3000 sq m. The shovel tests were placed at the upper portion of the shoreline at about 897 ft above LSL but no subsurface artifacts were recovered. The upper soil horizon has been eroded away leaving the very dark grayish brown silty clay loam B horizon of the Reading soil exposed at the surface, indicating the site has little potential for intact subsurface deposits.

A total of 19 artifacts were recorded from 14JF50 including 11 prehistoric and 8 historic items. Prehistoric material consists of two grit tempered cordmarked body sherds, two chunks, three flakes, three pieces of shatter and one diorite cobble that appears to have served as a mace or nutting stone. The cordmarked grit tempered sherds indicate a Plains Woodland cultural affiliation (Figure 9f-g).

The historic artifacts include one amber-colored glass bottle fragment (Figure 9h), one piece of thick window glass, three shards of white glass, one whiteware rim sherd, a brass screw and a nail. The bottle fragment is hand finished indicating it dates from sometime before 1915 (Rosenberg and Kvietok 1982), while the undecorated glass dates between 1830 and 1910. None of the other items are age-diagnostic although they do appear to post-date 1915.

The prehistoric occupation is at 14JF50 is indicated by a moderate scatter of ceramic and lithic debris. The cordmarked body sherds recovered from the surface unit indicate a Plains Woodland cultural affiliation, possibly associated with the Woodland III phase (Reynolds 1979; Witty 1981). Prehistoric artifacts recovered from the site indicate that ceramic, lithic and bone

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ARCHAEOLOGICAL SURVEY AND TESTING AT PERRY LAKE
JEFFERSON COUNTY KANSAS(U) ENVIRONMENTAL SYSTEMS
ANALYSIS INC KANSAS CITY KS CULTURAL RESOURCES DIV

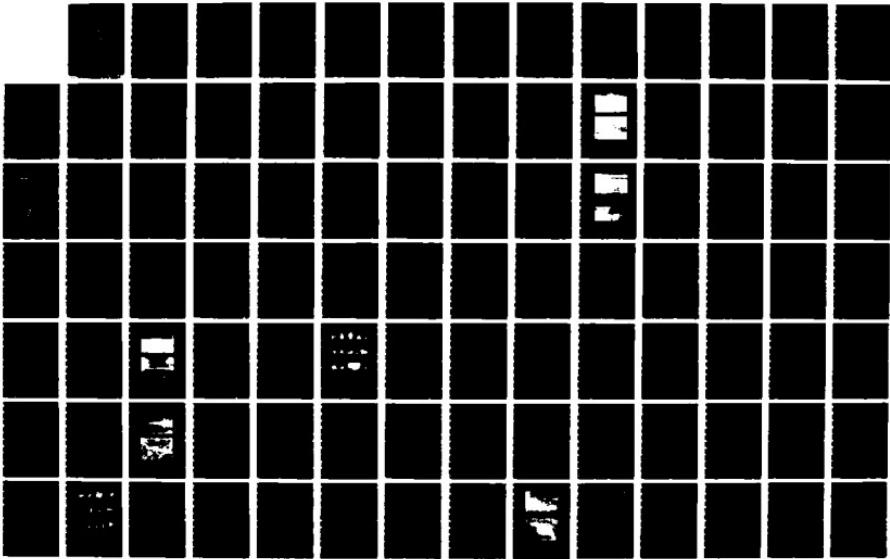
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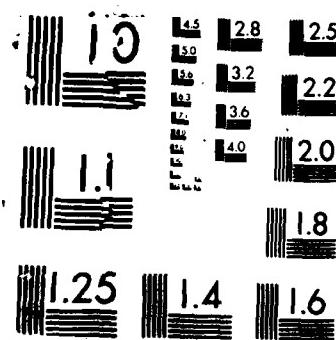
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manufacture were performed. Other activities suggested by the limited assemblage include hunting, butchering and possibly seed grinding. The daub recovered by Schock indicates that a prehistoric structure was present at the site. Overall, the prehistoric material suggests that 14JF50 was occupied over a relatively long period of time, probably as a small hamlet, during the Plains Woodland period.

The historic occupation at 14JF50 is represented by a small concentration of historic debris at the site's southeastern edge. The amber bottle fragment and whiteware indicate that the Euroamerican occupation may have occurred as early as 1830 or 1870. However, none of the other historic artifacts appear to date this early and more likely date to the early to mid 1900s. The window glass indicates that a building was present at the site, although no structures are shown at this location on either the 1899 or 1916 Jefferson County Plats, again suggesting a later date for the historic component. Structures were not present at the site in 1958, according to U.S. Army Corps of Engineers base map of the project area. Therefore, the building may date after 1916 and was apparently removed prior to 1958.

Since 14JF50 lacks intact subsurface deposits and has been largely destroyed by shoreline erosion, it is not considered eligible for the National Register. No further archaeological testing or management is recommended for the site.

14JF54

14JF54 was first reported by Jack Schock in 1965 as a light prehistoric lithic scatter of unknown cultural affiliation. He divided the site into two separate localities, designated as Areas A and B. Presently Area B is situated on a T-1 Terrace at the edge of the Perry Lake shoreline, while Area A occurs further up the shoreline outside of the survey boundary. The site is located within the small valley of Slough Creek about a mile south of site 14JF44 (Figure 3). Except for the denuded shoreline, the site was covered with dense weeds at the time of the 1985 survey. Artifacts were restricted to the shoreline and occurred within a narrow strip of land covering approximately 600 sq m. The lake level was at 895.6 ft above msl during the investigations at 14JF54 and the lower shoreline was flooded.

The 1985 investigations consisted of an intensive surface collection and the excavation of two shovel tests. A 100 percent sample of all material exposed along the shoreline was retained for analysis. The two shovel tests were placed 10 m apart along a north to south transect (Figure 11). Shovel Test 1 was placed on the eroded shoreline at 896 ft above msl, while Shovel Test 2 was excavated in the weeds at 900 ft msl. Neither shovel test produced conclusive evidence of an intact subsurface cultural deposit. However, within the Shovel Test 2, the very dark brown silty clay loam A horizon of the Wabash soil was largely intact indicating that the artifacts on the deflated shoreline represent intact subsurface deposits in the process of eroding from the cutbank. The Wabash soil is a deep, nearly level alluvial soil which occurs on floodplains and low terraces (Dickey et al. 1977:20).

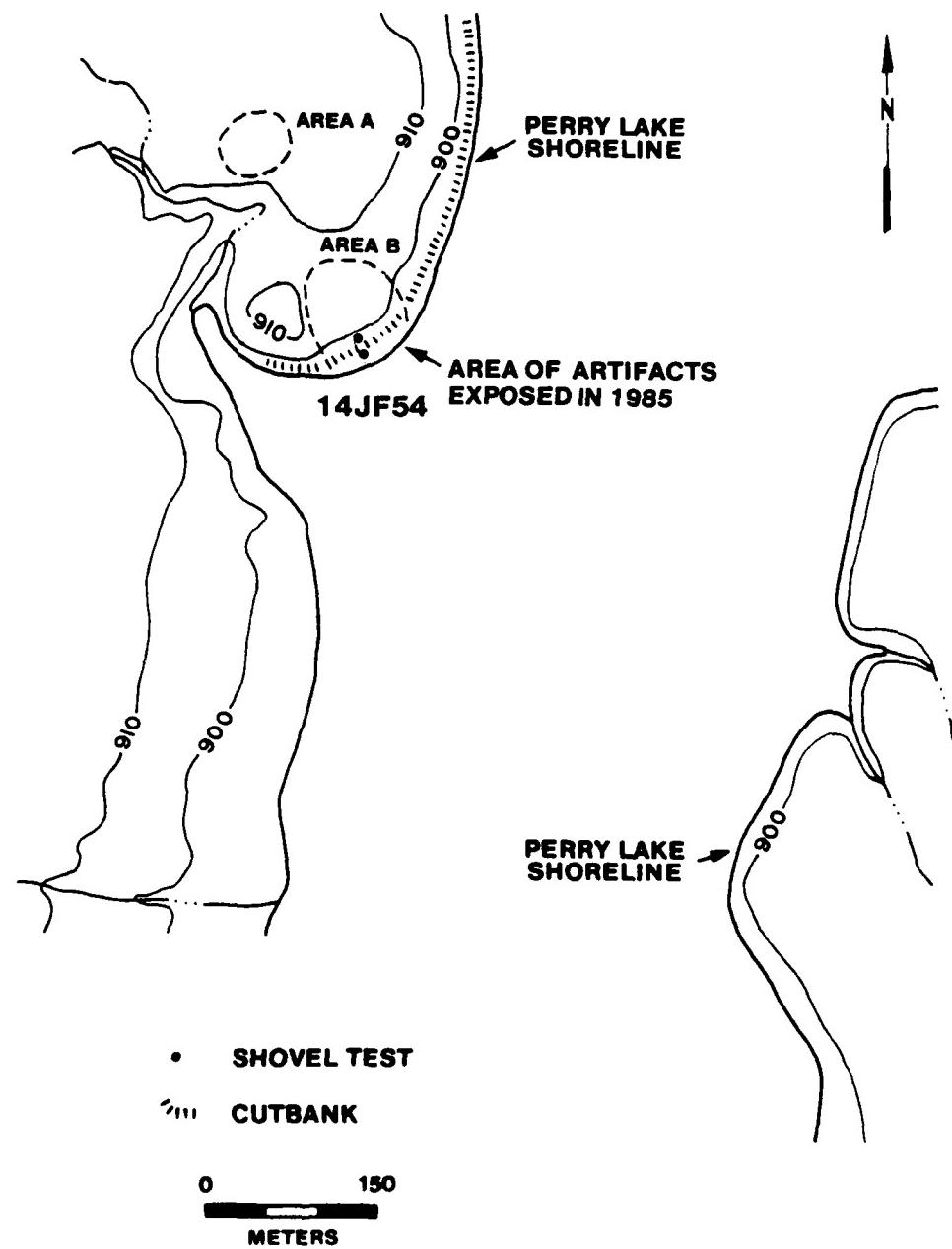


Figure 11. Location of 14JF54.

The limited artifact assemblage recovered from 14JF54 consists of one projectile point, four flakes, one chip and four pieces of shatter. All of the material is local tan, gray or brown chert. The projectile point is a small, serrated corner-notched variety similar to those referred to as Sequoia or Scallorn points (Figure 9i). It indicates a Plains Woodland cultural affiliation for Area B of the site and measures 24 mm in length, 13 mm in width and 4 mm in thickness. Notch width is 5 mm, notch depth is 4 mm and stem width is 5 mm. The point is missing part of its base and its tip and was manufactured from a fossiliferous brown chert.

14JF54 is situated on a T-1 terrace and, although deflated at the water's edge, has the potential for intact deposits further up the shoreline at about 900 ft above msl. The recovery of a small side-notched serrated projectile point from the site suggests a Plains Woodland cultural affiliation probably related to the local Grasshopper Falls phase.

The absence of ceramics or evidence of structural features suggests the site was occupied as a temporary campsite where hunting, butchering and chipped stone tool manufacture occurred. As such it represents a little known settlement type for this cultural manifestation in the project area and may contain significant data on the local prehistory. 14JF54 contains intact soils at the upper edge of the shoreline from which cultural material is in the process of eroding, therefore it is recommended that additional testing be initiated to determine the extent of these deposits inside the survey area and the National Register status of the site.

14JF66

14JF66 was initially recorded by Dr. Alfred Johnson of the University of Kansas in 1966 as a prehistoric lithic scatter of unknown cultural affiliation on a low terrace of Little Slough Creek. Currently, the site area is located adjacent to Little Slough Creek about 200 m east of the multipurpose pool of Perry Lake (Figure 3). The site has been completely destroyed by a borrow pit associated with bridge construction to the northeast of the site (Figure 12). Except for one possible chert flake recovered within an access road used by heavy equipment at the northern edge of the site area, cultural materials were not observed at this location. Since 14JF66 has been destroyed, it is not eligible for the National Register and no further archaeological work or management is recommended.

14JF101

14JF101 consists of a moderate scatter of recent historic debris including glass bottle fragments, ceramics, tin cans, metal pipe fittings and limestone blocks. The site is located on the T-1 terrace above the Delaware River and Peter Creek about 200 m west of Valley Falls, Kansas (Figure 3). It was situated in a milo field with very good surface visibility and covered an area of about 1600 sq m. A

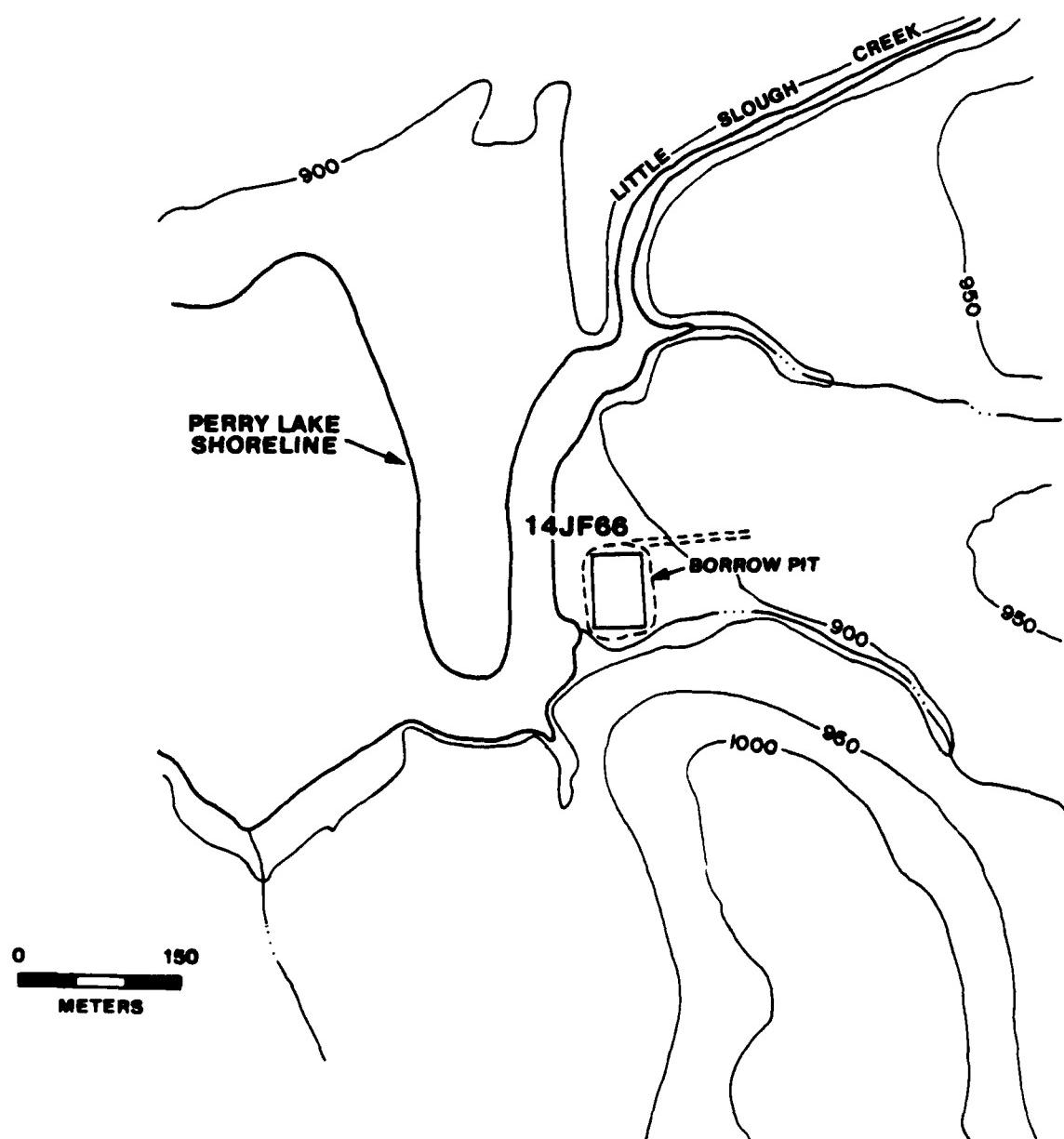


Figure 12. Location of 14JF66.

representative sample of artifacts were recovered from the surface and three shovel tests were placed across the site area at 20 m intervals (Figure 13). No subsurface artifacts were recovered, although the soil profile at the site is intact and consists of the Wabash silty clay loam (Dickey et al. 1977).

The artifact assemblage recovered from 14JF101 consists of one complete glass bottle and one whiteware rim sherd. The bottle contained St. Joseph Asperin and was manufactured by the Owens-Illinois Glass Co. at a plant in Fairmont, West Virginia in the 1940s according to the trademark (Rosenberg and Kvietok 1982:29). The whiteware rim dates to between 1840 and 1910. Judging from its glaze and thickness, it probably falls closer to the later date.

14JF101 primarily consists of a modern scatter of historic debris dating after 1900. According to the 1899 and 1916 Jefferson County Plats, the site area was previously owned by J. P. Barnes but no structures were present in the vicinity. Structures are also absent on the 1958 U.S. Army Corps of Engineers topographic base map of the project area, indicating that the site represents a recent historic dump. If any structure was present at the site, it was destroyed between 1916 and 1958. Since 14JF101 lacks structural integrity and is of recent origin, it is not considered eligible for the National Register. No further archaeological work or management of the site is recommended.

14JF102

14JF102 consists of a very light scatter of prehistoric lithic debris which extends across the top of a broad, low upland ridge above the floodplains of Cedar Creek and the Delaware River. The site is located in the northern portion of the project area about a half mile west of Valley Falls, Kansas (Figure 3). This location is approximately 200 m west of site 14JF418 with which it is probably associated. At the time of the survey, the site was in a freshly cultivated field planted in milo and surface visibility was excellent. The light scatter of quartzite and chert cobbles present covered an area of about 10,000 sq m. Most of the material appeared to be unworked but a number of specimens exhibited evidence of flaking, battering or thermal alteration. A representative sample of the material was retained for analysis.

Five shovel tests were excavated at 20 m intervals along an east to west transect at the northern portion of the site (Figure 13). All five shovel tests were sterile and very little of the A horizon of the Shelby-Pawnee complex soil remained intact. This soil formed in glacial till and glaciofluvial deposits and generally occurs on narrow ridge tops and side slopes (Dickey et al. 1977:17).

The artifact assemblage recovered from 14JF102 consists of one chert chunk, three cobbles of battered quartzite and one small piece of unburned limestone. None of the material is age-diagnostic and the cultural affiliation of the site is unknown.

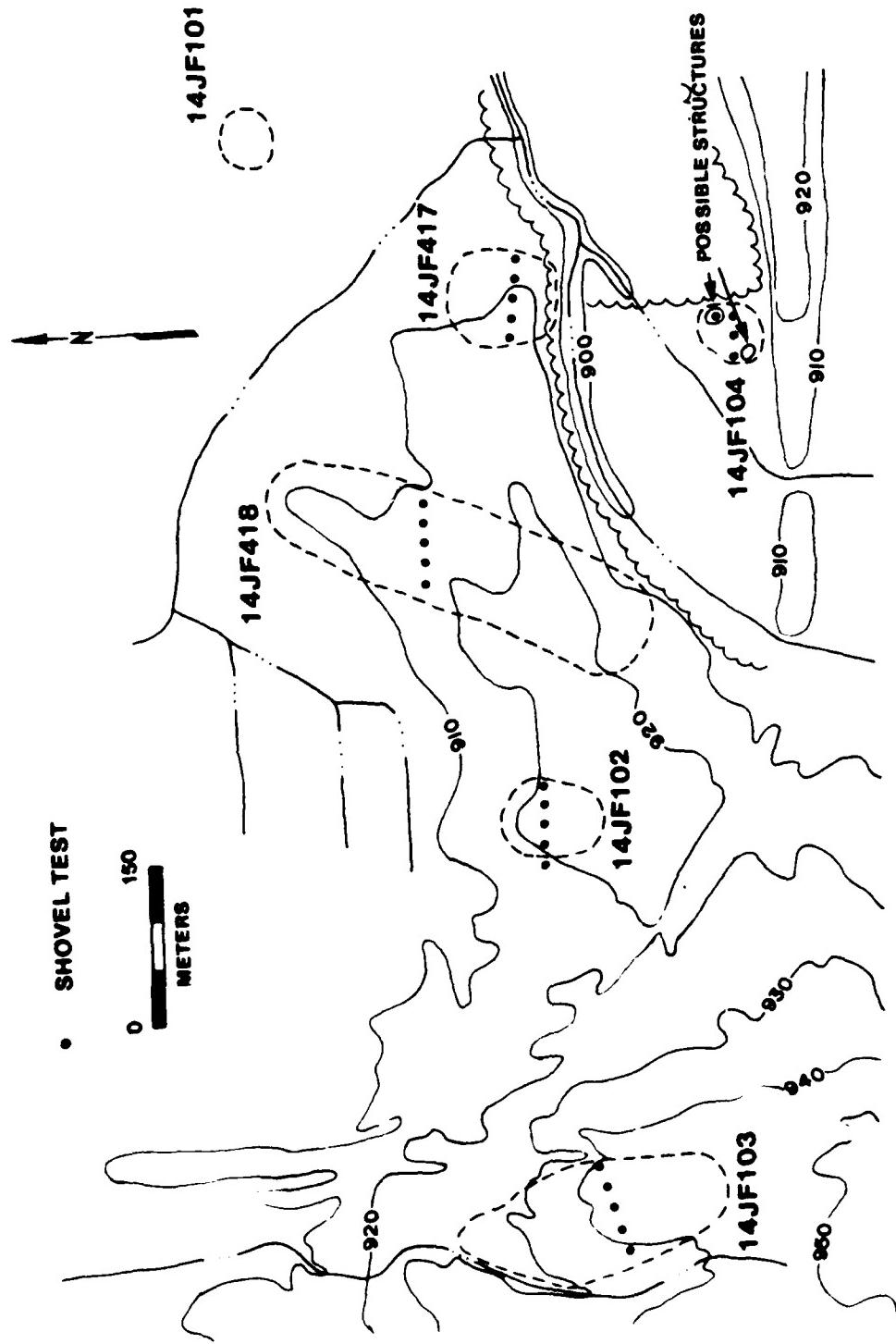


Figure 13. Location of 14JF101, 14JF102, 14JF103, 14JF104, 14JF417 and 14JF418.

14JF102 consists of a light scatter of chert and quartzite across a small upland ridge. The site is located 200 m west of 14JF418, at a terminus of the same upland ridge, and is probably an associated occupation. It appears to be a small campsite which has been completely destroyed by cultivation and erosion. 14JF102 is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF103

14JF103 consists of a light, dispersed prehistoric lithic scatter located on an upland hillslope and ridge top above Cedar Creek about a quarter of a mile west of 14JF102 (Figure 3). Ground cover consisted of low beans with excellent surface visibility. The hillslope at the northern edge of the site is highly eroded but the crest of the ridge is fairly intact. The southern portion of the site appears to have been minimally disturbed by construction of Kansas Highway 16.

The 1985 investigations at 14JF103 included an intensive pedestrian survey and the excavation of 5 shovel tests (Figure 13). A 100 percent sample of the prehistoric material was retained for analysis. The scatter covered an area of approximately 30,000 sq m, although most of the artifacts were recovered from the ridge top at the northern edge of the site. The five shovel tests were excavated at 20 m intervals along an east to west transect on the crest of the ridge. Subsurface artifacts were not encountered within the shovel tests, but the A horizon of the Shelby-Pawnee complex soil was partially intact, indicating the site has intact subplowzone deposits which are in the process of being deflated.

A total of 79 prehistoric artifacts were recovered from 14JF103 including chipped stone tools, ground stone tools, lithic manufacturing debris, hematite and unworked stone. A modern wristwatch and small piece of scrap iron were observed but not retained. The chipped stone tools include two biface fragments, one edge-modified chunk and one edge-modified flake. The ground stone consists of two hammerstones, one of which is a battered quartzite glacial cobble. The other is a cobble of battered chert. Lithic manufacturing debris includes four cores, 21 flakes, 5 chips and 21 pieces of shatter. All but two of these artifacts are made from locally available brown, tan or gray cherts. The exceptions consist of two diorite flakes derived from glacial cobbles. One piece of unworked hematite and 10 pieces of unworked quartzite, limestone and sandstone complete the artifact inventory.

14JF103 is bounded by Highway 16 to the south, a section road to the east and an unnamed intermittent stream to the west. At the time of the 1985 survey, the site was in a freshly disked field, planted in beans, and a dispersed scatter of lithic debris was observed on the surface. Although the site has been disturbed by erosion, cultivation and road construction, the central portion appears to be intact.

Artifacts recovered indicate that chert procurement and tool manufacture were major activities at the site, although light-duty

scraping and perhaps pigment processing also occurred. The limited artifact inventory suggests that the site was occupied as an upland campsite for a relatively short period of time, although the cultural affiliation could not be determined. The presence of a partially intact A horizon at the crest of the ridge top indicates that some undisturbed cultural deposits are present at the site and that 14JF103 is in the process of being deflated by cultivation. Therefore, it is recommended that more extensive testing be conducted in the central portion of 14JF103 to determine if intact deposits are present and if the site is eligible for the National Register. Further testing may provide the data required to assign a cultural affiliation to the prehistoric component.

14JF104

14JF104 consists of a light scatter of historic artifacts including bricks, limestone blocks, ceramics, window glass and bottle fragments, indicating the former presence of an historic structure. The site is located on a low terrace above Peter Creek, just north of old Highway 16 and about 200 m west of Valley Falls, Kansas (Figure 3). A structure recorded at this location on the 1916 Jefferson County Plat was apparently destroyed within the next 40 years, as it does not appear on the 1958 U.S. Army Corps of Engineers topographic base map.

The 1985 investigations included an intensive pedestrian survey and the excavation of four shovel tests. The site was planted in milo with very good visibility and a light to moderate scatter of brick, limestone, ceramics and glass was observed within an area of about 3500 sq m. A representative sample of debris was retained for laboratory analysis. Intra-site concentrations of artifacts were noted at both the eastern and western edges of the site indicating the possible locations of two former structures. The four shovel tests were placed at 20 m intervals across the site. Three were placed along an east to west transect across the center of the site and the fourth was located 20 m to the north in the northeastern portion of the site (Figure 13). No evidence of subsurface deposits was encountered within the shovel tests, although the A horizon of the Kennebec soil appears to be intact.

A total of 10 artifacts were recovered from the surface of 14JF104 including one piece of brick, one limestone foundation fragment, two bottle glass fragments, one piece of window glass, two porcelain fragments, one whiteware body sherd and two stoneware body sherds. One of the bottle fragments is a portion of a clear bottle dating after 1880. The other is an aqua fragment dating after 1810 and undoubtedly dates much later. The stoneware sherds date after 1880, while the whiteware dates between 1860 and 1910. One of the porcelain artifacts is the interior liner of a mason jar lid dating after 1868.

14JF104 consists of a light to moderate scatter of historic debris probably associated with a structure owned by J. P. Barnes in 1916. The structure was destroyed prior to 1958 and no intact subsurface deposits remain. Since 14JF104 lacks structural integrity and is not associated with individuals significant to the history of the project area, it is

not considered eligible for the National Register. No further archaeological work or management of the site is recommended.

14JF105

14JF105 is located just north of Valley Falls, Kansas on an upland ridge overlooking the Delaware River (Figure 3). The site was in a milo field and consisted of a light scatter of prehistoric artifacts covering an area of about 9600 sq m. Surface visibility was fair within the field and improved within a graded access road that runs from east to west across the ridge top. A 100 percent sample of exposed cultural material was retained for analysis and five shovel tests were excavated at 20 m intervals parallel to the field road (Figure 14). Although the shovel tests were sterile, the recent grading of the road bed exposed artifacts at a depth of about 10 cm below the surface at the southern edge of the site.

Immediately south of the road, the site is covered with a narrow band of light timber and grass. Shovel tests were not placed in this area. However, the soil profile exposed by the grader cut indicates artifacts are present to a depth of at least 10 cm. A limestone well which is approximately 3 m deep and 1 m in diameter is located in this area. No foundation remains are located in the vicinity of the well and historic structures are not indicated at this location on either the 1899 or 1916 Jefferson County Plats. Structures are also absent from the site area on the 1958 U.S. Army Corps of Engineers base map.

The site is located in the area of an "Indian Village" recorded on the 1856 GLO survey (Calhoun 1856). The Delaware Indians occupied the project area as part of their reservation from 1829 to 1867. It is possible that the site designated on the 1856 map represents a Delaware Village but this is not specifically indicated in the GLO survey notes (Adams 1856). Witty (1982:51) notes that after being moved to Kansas the Delaware were supposed to have occupied log cabins and to have established farmsteads during this reservation period. Therefore, their habitation sites would, for the most part, be similar to contemporaneous Euroamerican settlements. The presence of a limestone well at 14JF105 not associated with any structures recorded between 1899 and 1958, raises the possibility that it may represent an Historic Delaware Indian occupation. It is also possible that the "Indian Village" recorded during the 1856 survey represents an earlier prehistoric or proto-historic occupation site, unrelated to the Delaware habitation of the territory.

The artifact assemblage recovered from 14JF105 includes 62 prehistoric items and one historic glass bottle. Thirty-nine of the prehistoric artifacts were recovered along the hillslope within the milo field and 23 were recovered within the freshly graded roadbed. They include one projectile point, one biface fragment, three edge-modified flakes, three cores, six chunks, 17 flakes, five chips, nine pieces of shatter, one mano, one hammerstone, four ground stone fragments, eight pieces of unworked stone, two pieces of hematite and one piece of worked shell. The historic artifact was found within the wooded area and consists of a nearly complete whiskey bottle post-dating Prohibition.

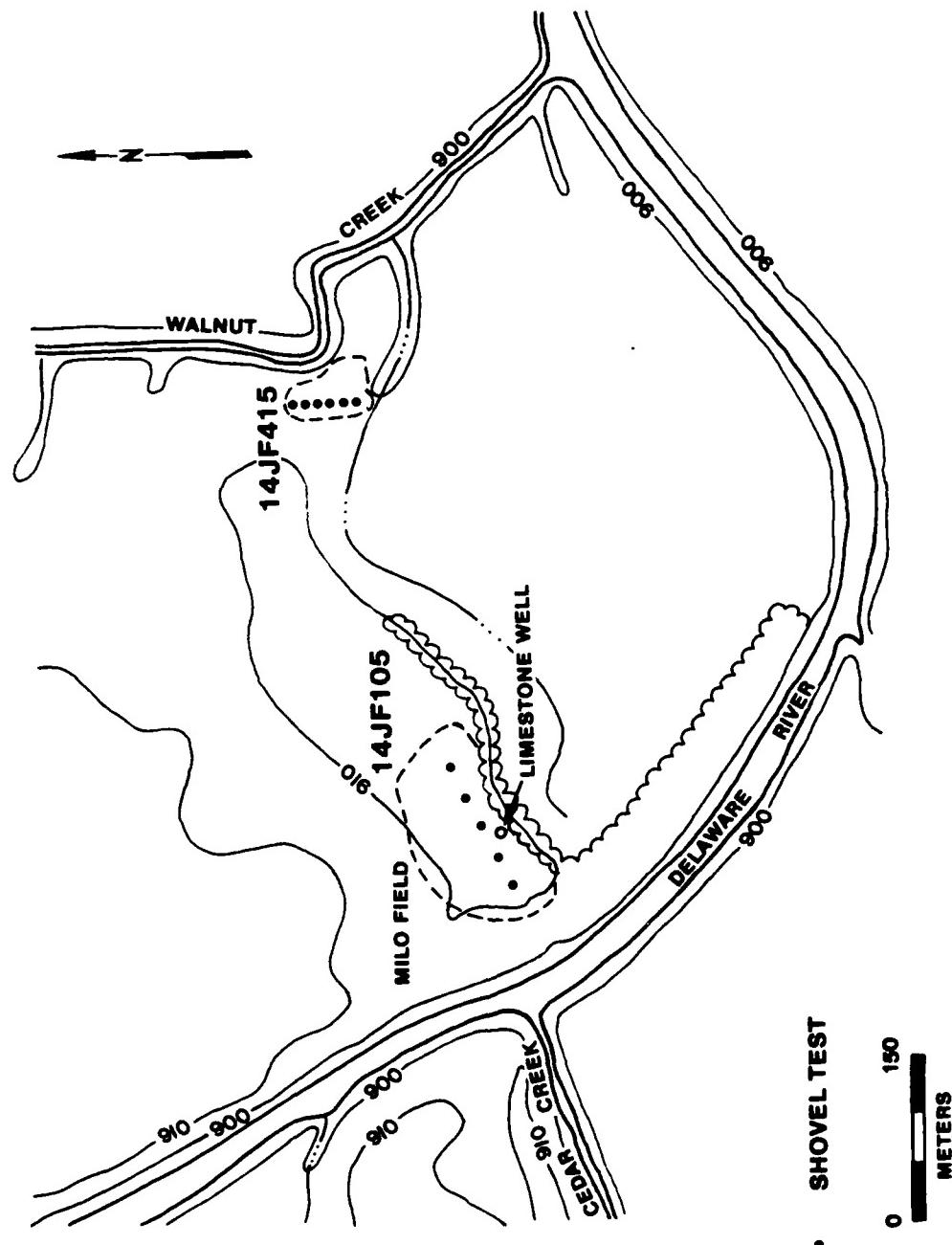


Figure 14. Location of 14JF105 and 14JF415.

The projectile point is a small, unnotched triangular specimen manufactured from a light gray chert (Figure 9j). It measures 17 mm in length, 15 mm in width and is 3 mm thick. The base of the point has been thinned, presumably to facilitate hafting and several small channel flake scars are present. The small size of the tool indicates it served as an arrow point. Similar specimens have been recovered from historic period Kansas Indian Village sites, in northeastern Kansas (Wedel 1959). The biface fragment is the midsection of a larger point or knife. The mano consists of a quartzite cobble with a smoothed flat surface, while the hammerstone is a smaller glacial erratic with battering along most of the perimeter (Figure 9k). One of the pieces of hematite was ground along one surface.

14JF105 consists of a fairly light scatter of prehistoric debris immediately adjacent to an historic limestone well. The site was recorded as the location of an "Indian Village" during the 1856 GLO survey. The project area served as the location of the Delaware Indian Reservation between 1829 and 1860 but the site does not appear to be associated with the historic Delaware Indians since no artifacts dating to this period were recovered.

The only historic artifact recovered from the site is a whiskey bottle post-dating Prohibition. The limestone well is located adjacent to the prehistoric scatter although no artifacts were found in direct association with it. The presence of cement at the top of the well suggests that a relatively recent episode of rebuilding has occurred or that the structure was constructed within the last 50 to 75 years.

The small triangular arrow point recovered from the surface of the site indicates a late prehistoric, protohistoric or possibly early historic occupation for the 14JF105. The absence of ceramics suggests either that the site was not intensively occupied or that it represents a special purpose Plains Village occupation. No evidence of prehistoric structures, storage facilities, or hearth features generally associated with more permanent Plains Village occupations was recovered during the investigations.

Activities inferred from the artifacts recovered include chipped stone and ground stone tool manufacture, hunting, butchering, grinding, pigment processing, and light-duty cutting and scraping. The low artifact density suggests a relatively short-term occupation. It appears that the site was occupied as an upland extractive camp by a relatively small group of people engaged in hunting and gathering subsistence tasks during the Plains Village or protohistoric (Oneota) periods. Although no artifacts were recovered to substantiate the historic record, it is also possible that the site represents a short term Delaware Indian occupation. The historic limestone well indicates that the site was subsequently occupied by Euroamericans, although no structural remains of a former dwelling or domestic artifacts were encountered.

No evidence of an intact subsurface deposit was encountered within the shovel tests. However lithic artifacts were recovered at least 10 cm below the surface within the recently graded roadbed located

immediately adjacent to the light timber at the southern edge of the site. 14JF105 appears to have been extensively disturbed by cultivation to the north of the access road but may possibly contain intact deposits within the wooded portion at its southern edge. Therefore, 14JF105 may contain data important to the local prehistory and further test excavations are recommended to determine its National Register status.

14JF106

14JF106 is located on the eastern shore of Perry Lake near the northern edge of the multipurpose pool (Figure 3). The site is situated on a relatively steep upland side slope and consists of a dry masonry limestone wall 28 m in length and 30 to 150 cm in height. An opening may have served as a gateway near the northern end of the wall, where it joins with a 9 m long section running west to east that grades into a natural limestone outcrop (Figure 15).

The site area is littered with glass bottles; plastic, styrofoam and other recent historic artifacts along the shoreline that have been deposited during periods of flooding. No residential debris such as window glass, ceramics, crockery or brick were present at the site. One recent historic bottle was retained for analysis. It consists of an animal vaccine bottle manufactured in the last 40 years. One shovel test was placed just inside the possible gateway but no subsurface artifacts were encountered.

The site represents a dry masonry limestone wall constructed adjacent to an old roadway located on both the 1899 and 1916 Jefferson County Plats. Although the limestone wall is largely intact, 14JF106 is not considered eligible for nomination to the National Register since it contains little significant information on the history of the project area. No further archaeological work or preservation measures are recommended for the site.

14JF107

14JF107 is located in the southern portion of the project area along the eastern shoreline of Perry Lake just north of Perry Dam (Figure 3). The site is situated on an upland side slope within the Perry Public Use Area and is a destroyed historic farmstead. Ground cover consisted of mown grass above the bare, eroded shoreline and surface visibility was very good.

An intensive surface collection was conducted with 100 percent of the glass and ceramic artifacts retained and a representative sample of metal artifacts collected. The scatter covered an area of only 25 sq m and was eroding out of a small intermittent drainage (Figure 16). One shovel test was placed just above the eroded shoreline but subsurface cultural material was not encountered. However, artifacts were observed beneath 10 cm of sterile sediments within the cutbank at the upper edge of the eroded shoreline. Structures are recorded at this location on

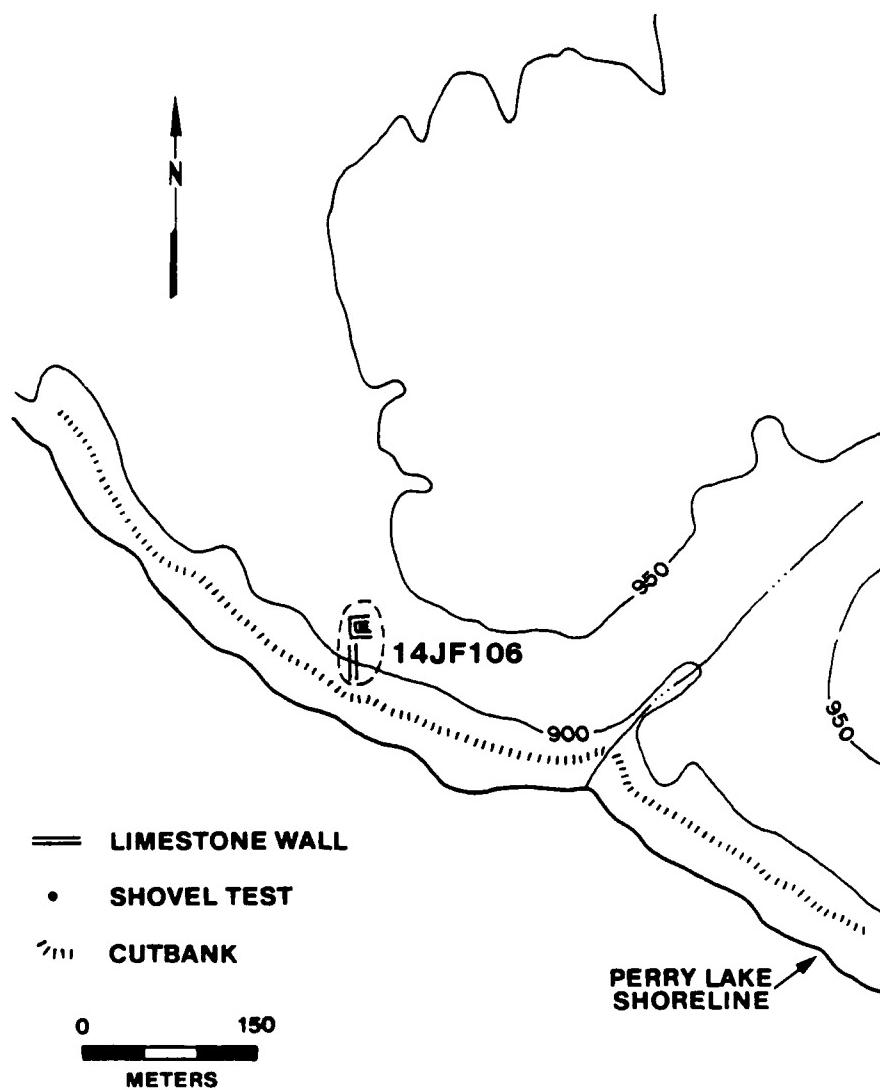


Figure 15. Location of 14JF106.

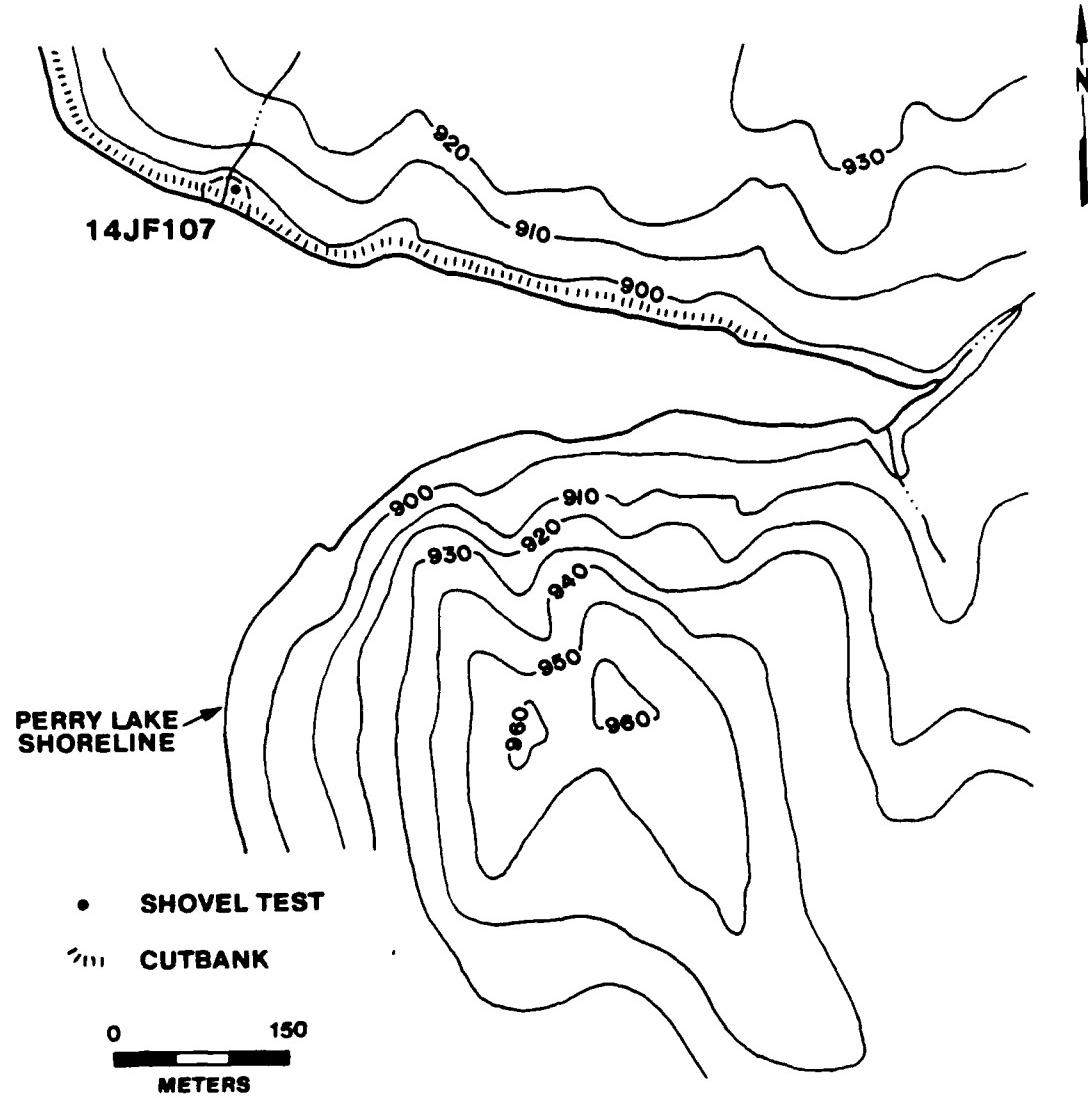


Figure 16. Location of 14JF107.

both the 1899 and 1916 Jefferson County Plats owned by Joseph White and Charles Gramse, respectively. They were apparently removed during lake construction, as seven buildings were present at this location on the 1958 U.S. Army Corps of Engineers topographic base map of the project area.

A total of only seven artifacts were recovered from 14JF107 including one bottle fragment, one piece of pressed glass, two ceramic sherds and three pieces of metal. The bottle fragment consists of a small portion of the base of an aqua-colored bottle dating after 1860. The ceramics include a whiteware rim dating between 1860 and 1910 and the base of a molded stoneware vessel dating after 1880. One of the metal artifacts is a four pronged pitch fork that probably also post-dates 1880. The other metal artifacts include an iron hinge and a metal harness hook which could easily date to the same period.

The artifacts recovered from the surface of 14JF107 include historic glass, ceramics and metal items, all indicative of a Euroamerican farmstead. These date between the later part of the nineteenth to the mid-twentieth century. The site was owned by Joseph White in 1899 and Charles Gramse in 1916. The land was purchased from Thomas A. Noll by the federal government during lake development and the farmstead was destroyed. Limestone foundation remains were encountered in the site area and appeared to represent an outbuilding or barn rather than a residential structure. Since 14JF107 has been bulldozed and contains only redeposited subsurface artifacts, it is not considered eligible for the National Register and no further archaeological work or preservation is recommended.

14JF108

14JF108 consists of the remains of a dry masonry limestone wall located on an upland slope near the western shore of Perry Lake about 1 km north of Perry Dam (Figure 3). The wall is aligned east to west along a section line and continues for 150 m west of the shoreline to a park access road in the Rock Creek Public Use Area (Figure 17). It is constructed of cut limestone blocks and field stones, is about 1 m wide and varies from 10 to 30 cm in height. The wall is largely destroyed and was obviously much higher in the past judging from the amount of limestone strewn at its base. Although recent historic items litter the shoreline at this location, no artifacts definitely associated with the limestone wall were recovered. One shovel test was excavated at the base of the wall but subsurface artifacts were not encountered.

A road is indicated at this location on both the 1899 and 1916 Jefferson County Plats although structures were not recorded. The road was apparently improved between 1899 and 1916 when it served as the route for Rural Free Delivery in the county and was a main artery linking Thompsonville, Ozawkie, Meriden and Valley Falls. The area to the north of the wall has been leveled but no definite evidence of a road, such as pavement or gravel, was observed during the survey. The

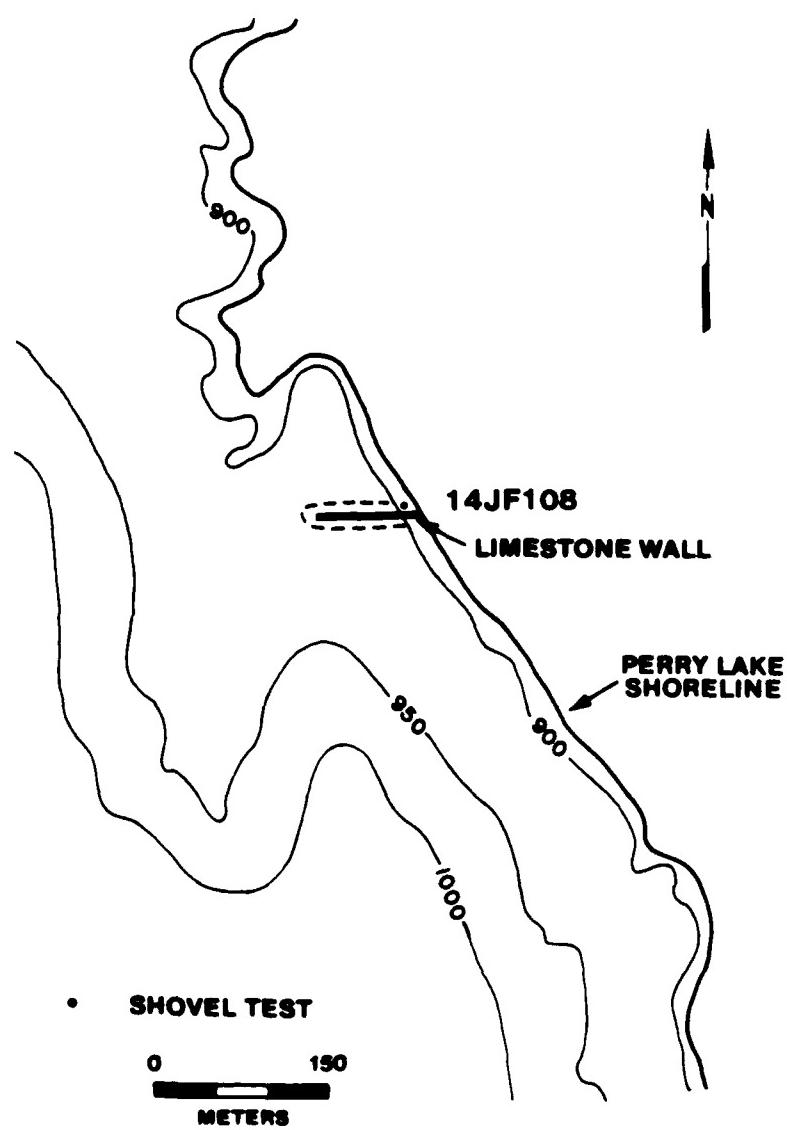


Figure 17. Location of 14JF108.

remains of a largely destroyed limestone wall and possible roadbed are not considered significant to the local history of the project area and 14JF108 is therefore not considered eligible for the National Register. No further archaeological work or management of the site is recommended.

14JF109

14JF109 is located on upland slope along the western shore of Perry Lake near the southern edge of the Jefferson Point Area of Perry State Park (Figure 3). The site consists of a scatter of historic debris along the shoreline associated with the foundation remains of a house and two silos. The shore was denuded of vegetation at the water's edge but was covered with mown grass further up the bank. Surface visibility was fair to excellent throughout the site area.

Investigations at 14JF109 included an intensive pedestrian survey, artifact collection and the excavation of five shovel tests (Figure 18). The house foundation is located on the upper portion of the shoreline at about 900 ft above msl. It consists of a low mound which measures about 15 by 18 m in extent with a possible cellar depression in the southwestern corner. A low, dry masonry limestone wall is located adjacent to the northern edge of the house mound. It runs east to west for about 50 m and corresponds with the section line separating Townships 10 and 11.

A field or access road is located immediately north of the limestone wall and the two circular silo foundations are located 75 m to the northeast of the road along the shoreline. One of the silos was constructed of cement blocks and the other of red ceramic building blocks. Both have limestone and cement foundations measuring 5 m in diameter. About 75 m south of the house remains is a concentration of metal artifacts that may indicate the former presence of a barn or outbuilding. Structures are indicated at the site on both the 1899 and 1916 Jefferson County Plats when the land was owned by Charles McCoy. Structures were still present in 1958 according to the U.S. Army Corps of Engineers base map of the project area.

The scatter of historic debris along the shoreline covered an area of about 5100 sq m and a representative sample of artifacts was retained for analysis. One of the shovel tests was placed at the eastern edge of the house mound and encountered composition roof shingles, wood and mortar within the upper 30 cm. None of this material was retained but it does indicate that subsurface deposits are present at the site. The other shovel tests were sterile and the A horizon of the Vinland soil has been removed by erosion.

The 25 artifacts collected from the surface of the site include five bottle glass fragments, two pressed glass fragments, ten ceramic sherds and eight metal artifacts. The bottle glass includes one neck section, three bases and one body fragment. The neck section is from a bottle with a threaded lip for a screw cap. The three base sections represent clear, aqua and lavender-colored bottles. The aqua bottle has

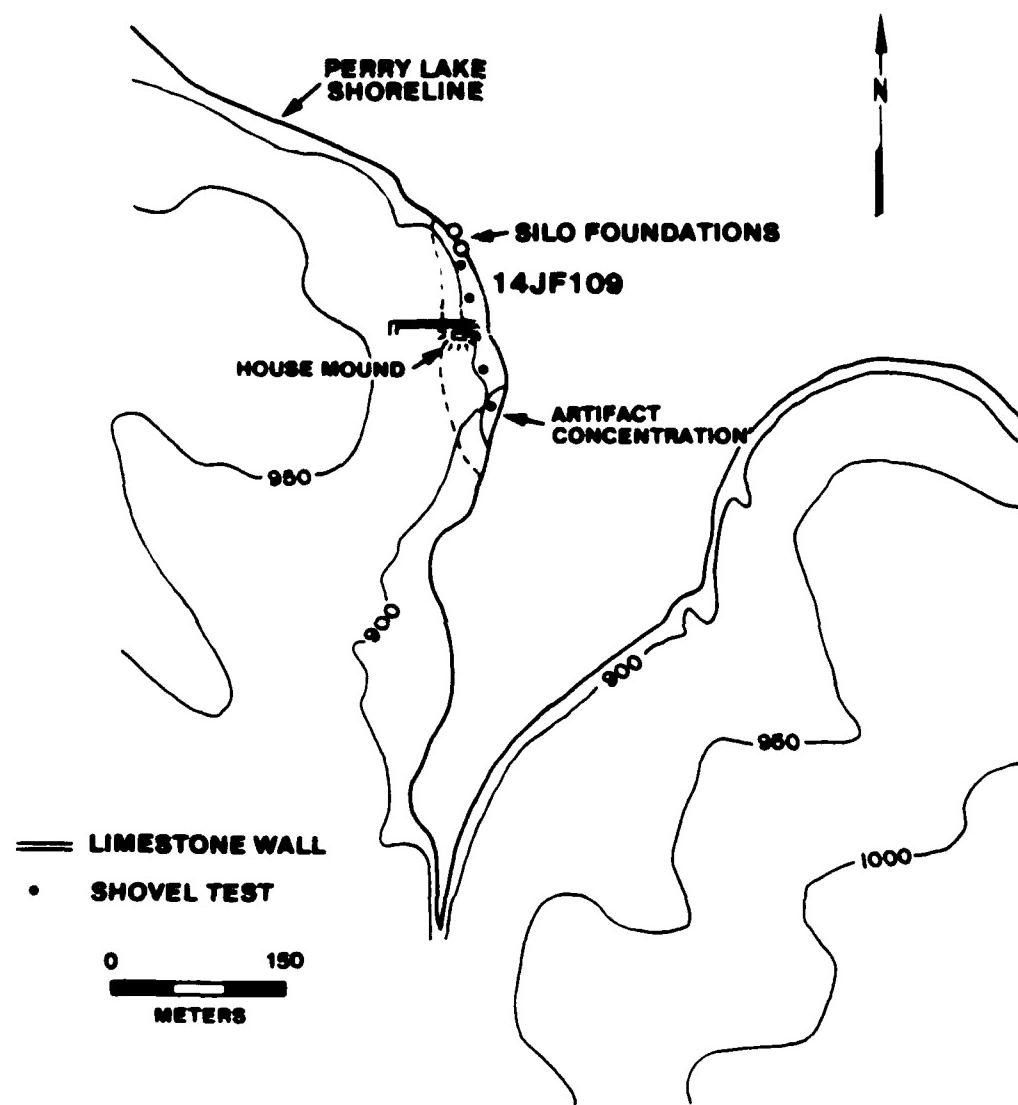


Figure 15. Location of 14JF109.

an oval impression on the bottom of the base indicating it was machine manufactured and the others exhibit prominent seams also indicating mechanized origins. The body fragment is a section of a lavender-colored bottle. The machine-made bottles post-date 1890 and most likely date to the early 1900s. The screw top bottle dates after 1925. The two pressed glass fragments include one piece of cobalt blue glass from a polygonal-shaped artifact and one lavender-colored base of what may be a small jar dating after 1880.

The ceramics from 14JF109 include four rim sherds and five body sherds derived from utilitarian domestic vessels and one piece of ceramic building block from one of the two silos. Two of the rim sherds are from large stoneware vessels. One is a small section of a decorated whiteware plate dating between 1830-1900 and the other is a porcelain fragment of the interior lid of a mason jar. The body sherds include three large pieces of stoneware dating after 1880, one piece of whiteware dating between 1830-1920 and a porcelain fragment that could not be dated. The metal artifacts include one iron door hinge, one iron ring, one harness fitting, one knife handle, one wire nail and two pieces of scrap iron. Except for the wire nail, which were commonly used after about 1890, these artifacts are not age diagnostic.

14JF109 consists of the structural remains of a house, limestone section wall and two silos on an upland side slope. Artifacts are scattered throughout the site area but are most concentrated along the shoreline to the east and south of the former house site. The artifacts recovered from the site confirm a Euroamerican cultural affiliation dating to the late nineteenth and early part of the twentieth centuries. The site is the location of the former Charles McCoy farmstead, which was occupied from at least 1899 to 1916. Structures were still present at the site in 1958, after which they were purchased from Edwin N. Michael.

Subsurface artifacts were encountered to a depth of 30 cm at the eastern edge of the house mound. These included recent building materials such as roof shingles, plastic, painted wood and mortar. These artifacts indicate that the site was demolished during lake construction and that intact earlier deposits may be present. If present, such deposits could be important to the local history of the region especially with regards to the early settlement, trade and subsistence patterns. Since 14JF109 has the potential for intact subsurface deposits related to the early settlement of the project area, it is recommended that additional test excavations be conducted to determine the site's National Register status.

14JF110

14JF110 is located on a high terrace on the western shore of Perry Lake within the Jefferson Point area of Perry State Park (Figure 3). The site is a partially submerged concrete silo foundation, approximately 5 m in diameter, situated adjacent to the swimming beach of the State Park (Figure 19). Ground cover consisted of sand and gravel and surface visibility was excellent. Several large limestone

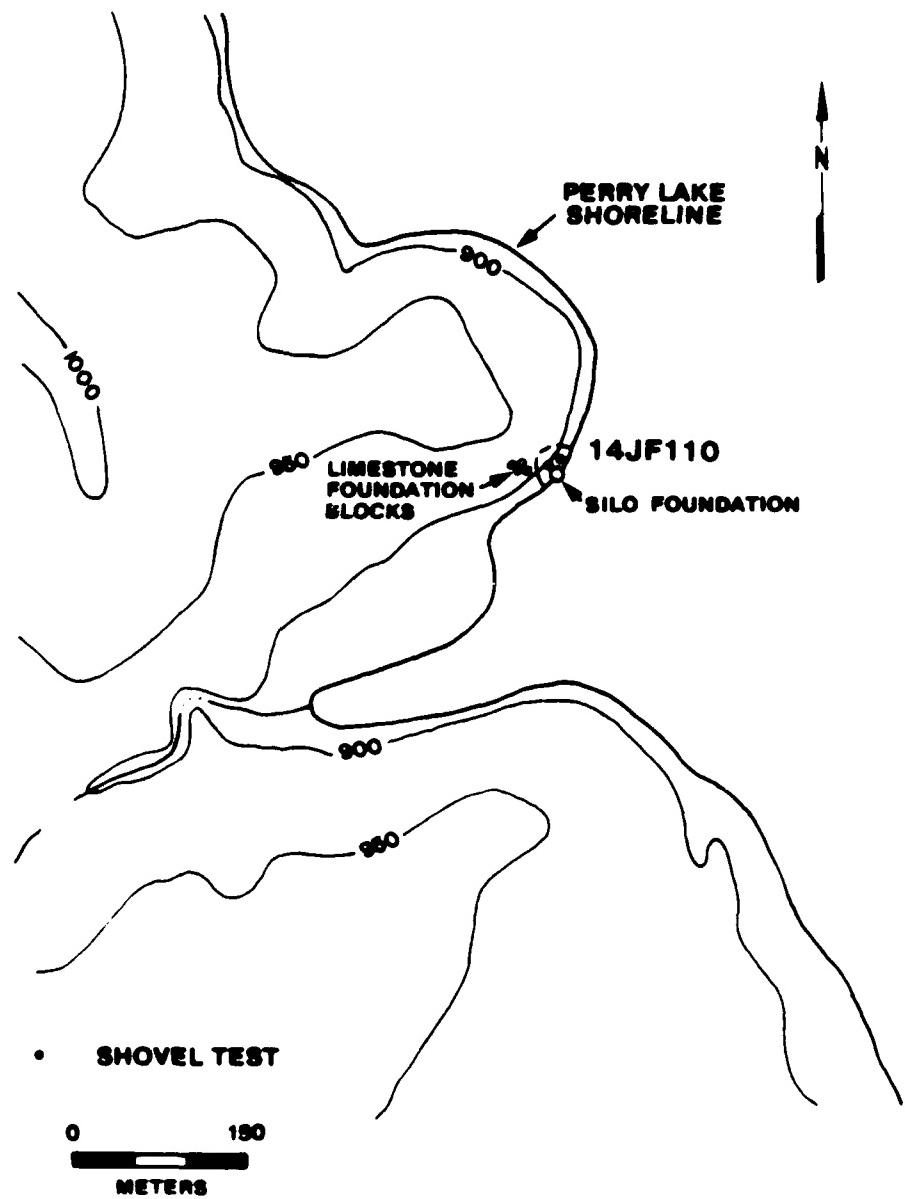


Figure 19. Location of 14JF110.

blocks are located 25 m to the west of the silo indicating the former presence of a barn or house in the site area.

The scatter of artifacts around the silo covered an area of about 400 sq m and consisted of glass, ceramics and metal artifacts. Two shovel tests were excavated adjacent to the foundation but no intact subsurface deposits were encountered. Redeposited nails were present to a depth of 10 cm within the sand and gravel of the shoreline. Structures are indicated at this location on both the 1899 and 1916 Jefferson County Plats when the land was owned by I. S. Ploughe. Two silos and one structure are shown within the survey area at this location on the 1958 U.S. Army Corps of Engineers base map. Two associated buildings were located between 900 and 910 ft above msl while nine buildings and four silos are located beneath Perry Lake. They were purchased by the government from Vernet C. Dick prior to 1963 and were removed during lake construction.

A total of seven artifacts were recovered from the surface of 14JF110. These include two whiteware rim sherds, one whiteware body fragment and a piece of ceramic building tile. Metal artifacts consist of two wire nails and an iron eyelet. One of the whiteware rims is possibly a piece of pearl ware from a small bowl with a molded design that dates between 1785 and 1830. The other whiteware rim is a section of a cup dating between 1850 and 1900. The two wire nails date after 1890. None of the other artifacts could be dated.

14JF110 consists of the destroyed remains of an historic farmstead occupied from at least 1899 to 1916 by I. S. Ploughe. As of 1958, the property was owned by Vernet C. Dick and 16 structures were still present of which only two silos and one outbuilding occurred within the survey area. The remaining buildings are located outside the survey area or beneath Perry Lake. No intact subsurface deposits were encountered and 14JF110 is not considered eligible for the National Register. Therefore, no further archaeological work or preservation is recommended.

14JF111

14JF111 is located on a high terrace at the northern shore of the Rock Creek arm of Perry Lake (Figure 3). The site consists of a light scatter of historic material along the eroded shoreline. Ground cover consisted of weeds above the bare shoreline and surface visibility was fair to good (Figure 20). Structural remains were not observed within the site vicinity, although a structure owned by H. McCoy is shown at this location on both the 1899 and 1916 Jefferson County Plats. Two structures are indicated just south of the site area on the 1958 U.S. Army Corps of Engineers base map. These structures are now located under the water level of the multipurpose pool.

The 1985 investigations included intensive pedestrian survey, artifact collection and the excavation of two shovel tests along the shoreline. The pedestrian survey revealed a light to moderate scatter of historic glass and ceramics within a linear strip of land that

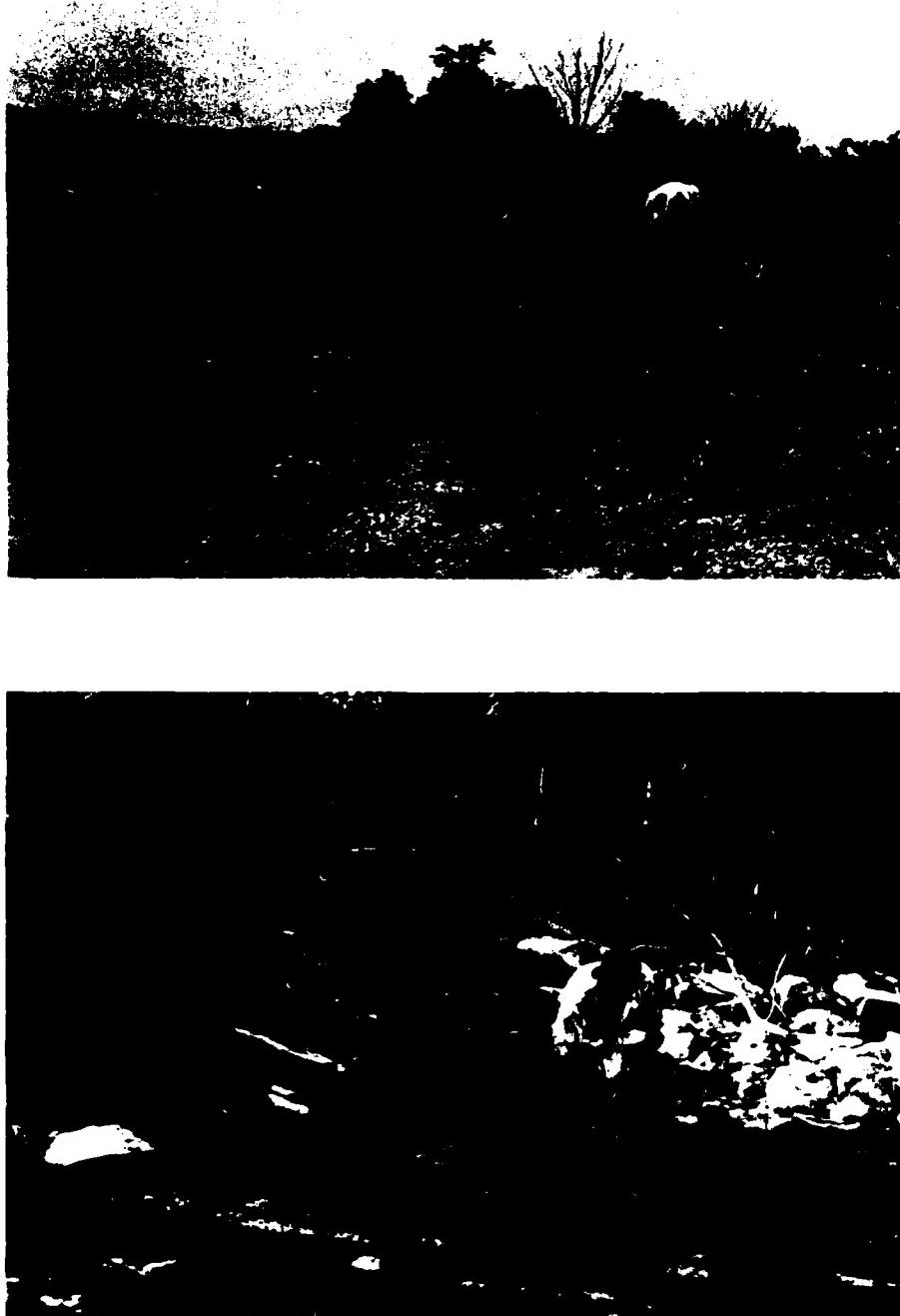


Figure 20. General views of sites 14JF111 and 14JF112: view to the north of the eroded shoreline at 14JF111 (upper); view to the northwest of Structure 4 at 14JF112 (lower).

covered an area of about 1000 sq m. A representative sample of artifacts was retained for analysis including all observed rim sherds and all bottle base and lip fragments. The shovel tests were placed 10 m apart on an east to west transect oriented perpendicular to the shoreline (Figure 21). Both shovel tests were sterile and the upper A and B horizons of the Gymer silt loam soil have been completely removed by wave action at the water's edge. In contrast, the B horizon remains largely intact in the upper portion of the shore near the elevation of 900 ft above msl.

The artifact assemblage recovered from 14JF111 includes six pieces of glass and six ceramic sherds. The glass includes one bottle lip fragment, two body fragments, one piece of pressed glass and two window glass fragments. The ceramics consist of two stoneware body sherds, one whiteware rim sherd, two whiteware body sherds and one piece of porcelain. The bottle lip is a fragment of a machine-made jar with non-continuous threads. It probably dates between 1910 and 1930. The other glass fragments are not age-diagnostic, although the window glass indicates the presence of a structure. The two stoneware body sherds are slip and salt glazed and were probably molded indicating a date of manufacture after 1880. The whiteware rim is undecorated and dates between 1840 and 1900, while the two undecorated whiteware body sherds date between 1830 and 1910. The porcelain fragment is a section of the lip of a cup of uncertain age.

14JF111 consists of a light scatter of historic debris associated with the H. McCoy farmstead recorded at this location on both the 1899 and 1916 Jefferson County Plats. Dateable artifacts recovered from the site surface overlap this time period. They range from about 1830 to 1930 with most falling between 1880 and 1910. Overall, the artifacts are associated with domestic activities suggesting the former presence of a house in the vicinity of the artifact scatter rather than a barn or outbuilding. No foundation remains were observed in the site locality and no subsurface deposits were encountered within the shovel tests. The site appears to have been completely destroyed and given the severity of erosion along the shoreline, it has little potential for intact deposits. 14JF111, therefore, is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF112

14JF112 is located on an upland side slope along the shoreline of Perry Lake within the Delaware Area of Perry State Park about 700 m east of 14JF111 (Figure 3). The site consists of a moderate to dense scatter of historic artifacts associated with four limestone foundations along the shoreline. Three of the foundations are located above the eroded shoreline at an elevation of about 900 ft above msl. These include the remains of two houses and a root cellar. The fourth foundation is associated with a large barn and is located along the water's edge at the eastern edge of the site (Figure 21).

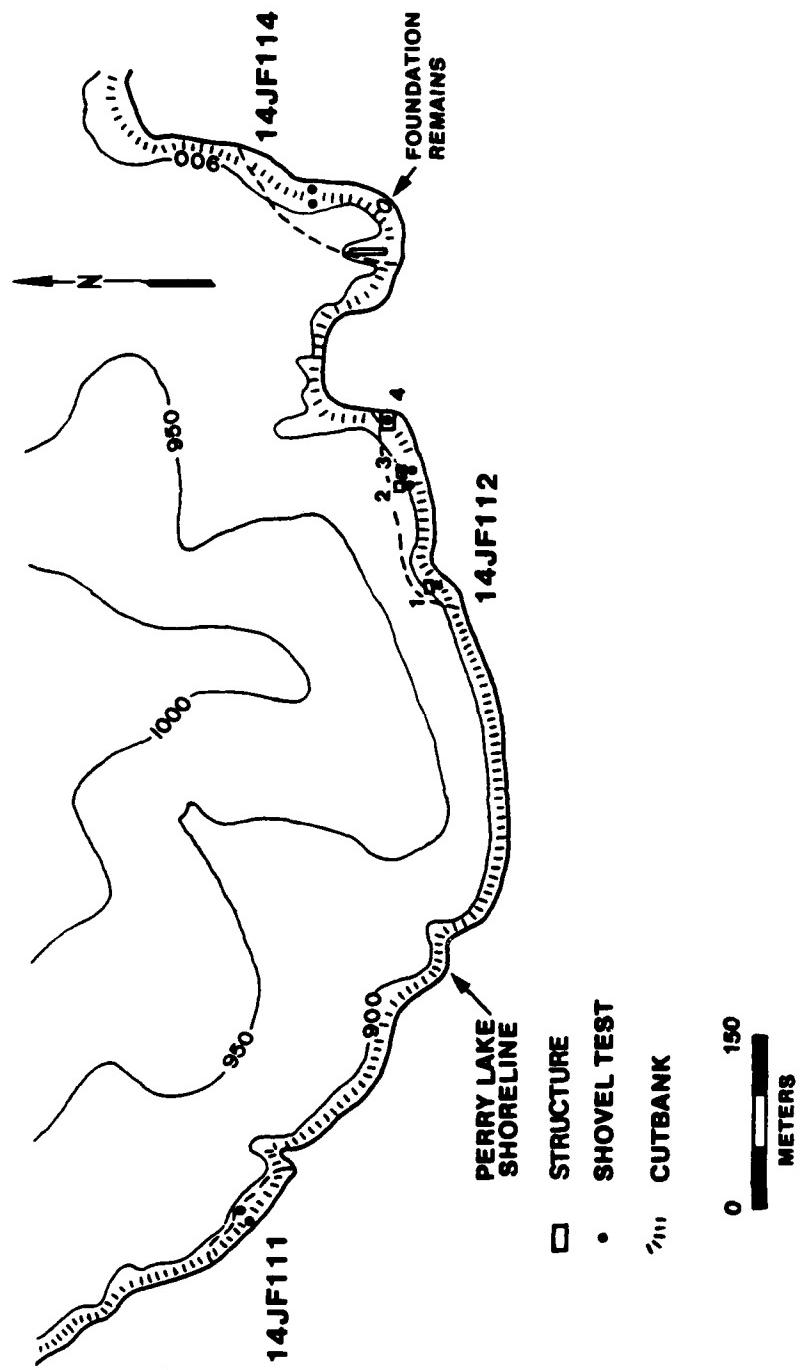


Figure 21. Location of 14JF111, 14JF112, and 14JF114.

The 1985 investigations at 14JF112 included an intensive pedestrian survey, artifact collection and the excavation of four shovel tests. The survey revealed the presence of a moderate to dense scatter of historic debris covering an area of approximately 5200 sq m. Ground cover consisted of weeds and brush above the denuded shoreline and surface visibility was generally good throughout the site area. A representative sample of artifacts from the site was collected for analysis. Artifact provenience was maintained by reference to the structures with artifacts recovered within or adjacent to a structure collected separately. Artifacts from the eroded shoreline were given a general surface provenience. Shovel tests were excavated at each of the four foundations and, with the exception of Structure 2, subsurface deposits were not located. The intact A horizon of the Vinland complex soil was encountered adjacent to Structures 1 and 2, while the soil has been completely eroded in the vicinity of Structure 4 (Figure 20).

Structure 1 is located at the western edge of the site about 120 m west of Structures 2 and 3 (Figure 21). It is a largely intact rectangular house foundation constructed of quarried limestone blocks. It measures about 5 m east to west and 4 m north to south. The entrance was placed in the southern wall of the house and the remains of a brick and mortar chimney are located at the northern edge of the building. Artifacts surrounding the foundation include building material, glass, ceramics and metal artifacts.

Structure 2 is located 100 m east of Structure 1 and consists of a dry masonry limestone cellar (Figure 21). The structure is partially intact and measures approximately 3 m east to west, 4 m north to south and is about 2 m deep. The entrance is at the southern wall. A shovel test placed just outside the entrance encountered limestone wall fall at 10 cm below the surface documenting that subsurface deposits are present. Artifacts associated with the cellar include mason jar lids, bottle glass and ceramics.

Structure 3 is located near the center of the site about 120 m east of Structure 1 and 20 m southeast of Structure 2 (Figure 21). It is a limestone house foundation consisting of two rectangular adjoining sections. The main section measures 4.5 m east to west, 3.5 m north to south and abuts an apparently later addition or porch along the northern wall. The addition measures 3 m east to west and 2 m north to south. A limestone well is located at the northeastern corner of the building and is flanked by two large cement slabs. The well is about 4 m deep and 1 m in diameter. A destroyed brick and mortar chimney is located at the northern edge of the structure and the entrance was apparently located along the southern wall.

Structure 4 is located about 25 m east of Structure 3 along the shore of a small inlet (Figure 21). It consists of the partially intact foundation of a large barn. The foundation measures 7 m north to south and at least 5 m east to west. The eastern portion of the foundation is located beneath Perry Lake and the western edge consists of 4 to 5 courses of large cut limestone blocks measuring over 1 m in length and from 50 to 60 cm in width and thickness (Figure 20). Artifacts within

and around the structure consisted primarily of pieces of farm machinery and hand tools.

The four structures described above are associated with the farmstead indicated at the locale on both the 1899 and 1916 Jefferson County Plats. In 1899, the land was owned by J. S. Ploughe and by 1916 ownership had transferred to C. Goeppert. The structures were destroyed prior to 1958, as indicated by their absence on the U.S. Corps of Engineers topographic base map of the project area.

A total of 86 artifacts were recovered from the surface of 14JF112 including 30 from the eroded portion of the shoreline, 16 from the vicinity of Structure 1, ten from the area of Structure 2, 12 from Structure 3 and 18 from Structure 4. Artifacts recovered along the shoreline consist of 18 pieces of bottle glass (five lip fragments, two neck fragments, four base fragments and seven body fragments), one piece of pressed glass, nine ceramic fragments (two stoneware rims, one stoneware body sherd, five whiteware rims and one porcelain body sherd), one iron bolt and a piece of ceramic drain pipe.

One of the lip fragments is a lavender-colored section of a bottle with an "oil finish" and applied lip (Figure 22a). It was probably made from a two piece mold and appears to represent a liquid container manufactured between 1870 and 1910. Another lavender-colored lip and neck fragment has an everted hand applied lip and was probably used as a proprietary or prescription bottle between 1870 and 1910 (Figure 22b). Two of the lip sections are from machine-made food bottles. One is aqua-colored with a continuous threaded screw top dating after 1920 (Figure 22c) and the other is a lavender-colored bottle with a pry off cap indicating a date after 1910 (Figure 22d). The remaining lip fragment is from a clear bottle with both a crown finish and continuous threads which dates after 1920.

The two neck fragments include a machine-made lavender bottle probably used as a food jar after 1920 and an aqua-colored insulator with internal threads dating after 1867. The four base fragments include two with valve marks indicating they are machine-made food containers (mason jars) or milk bottles manufactured between 1930 and 1940. The other two bases include a thick lavender section that could not be dated and an aqua-colored bottle with an oval shape marked with the letter "C" over the number "56". This mark could not be identified but the specimen appears to be the base of a liquor bottle dating to the late nineteenth century. The five bottle glass body fragments include two colored undiagnostic sections, two clear fragments manufactured after 1880, and a section of a mason jar labeled with "[PAT]EN[T]/NOV 30/1858" which dates between 1870 and 1890.

The five whiteware rim sherds are all undecorated indicating they were manufactured between 1830 and 1910. One of the stoneware rim fragments is a section of a crock with an applied handle just below the lip. It has a gray body with an exterior salt glaze and an interior brown slip glaze. It was molded by jolleying and probably dates after 1880. The stoneware body sherd is also derived from this or a similar vessel. The other stoneware rim is tan bodied with a brown slip glaze,



Figure 22. Artifacts from sites 14JF112, 14JF114 and 14JF116: a-e, bottle neck and lip sections from 14JF112; f, pressed glass from 14JF112; g, bottle stopper from 14JF114; h-i, decorated whiteware rims from 14JF114; j, possible pearl ware from 14JF116.

although the date of manufacture was not determinable. The porcelain body fragment is a section of a decorated plate which could not be dated. The pressed glass, ceramic drain pipe and metal bolt are also not age-diagnostic.

The artifacts from Structure 1 include eight pieces of bottle glass (one lip fragment, six base sections and one body fragment), five pieces of pressed glass, one piece of window glass, one metal wick holder and a seashell cut into the shape of an ashtray. The bottle lip fragment consists of the shoulder, neck and lip of a lavender-colored prescription bottle manufactured with a two piece mold between 1880 and 1910 (Figure 22e). The base fragments include four food containers or milk bottles with valve marks dating between 1930 and 1940 and two which could not be dated. The clear bottle glass body fragment dates after 1880. The five pieces of pressed glass include two green, two clear and one lavender fragments. These are sections of decorative table ware or lamp globes. Only one is datable (Figure 22f) and represents a clear lamp globe of the "flattened hobnail" design group dating to the 1880s (Lee 1933:278). The window glass, metal wick holder and seashell could not be dated.

The artifacts from Structure 2 include three bottle glass base fragments, one stoneware rim sherd, one stoneware body sherd, four porcelain rim sherds and one mason jar lid. One of the base fragments is a clear molded bottle dating after 1880. The other two are food or milk containers, one of which is clear glass and dates after 1880. The other is aqua-colored and has a machine-made valve mark that dates to between 1930 and 1940. The stoneware rim is a section of a molded milkpan with a dark reddish-brown slip glaze and exterior light brown salt glazed lip. It probably dates to the early 1900s. The stoneware body sherd is a section of the base of a molded stoneware butter crock with a cream body and a salt glaze that probably dates after 1890. The porcelain rim fragments are small and not very diagnostic. One is the section of a mason jar lid liner dating after 1869. The complete mason jar lid dates to after 1900 since the word "BOYD" appears on the interior liner.

Structure 3 artifacts include one bottle fragment, four pieces of pressed glass, one stoneware rim sherd, two stoneware body sherds, one whiteware rim, one whiteware body sherd and two pieces of porcelain. The glass bottle fragment is the base of a small drugstore jar which contained "menthol". It is too incomplete to determine the date of manufacture. The four pressed glass fragments include three decorated specimens derived from decorative glass tableware common in the 1870s and 1880s. The other specimen is a clear undecorated fragment that could not be dated. The stoneware rim is a section of a molded milk pan with a cream colored body and a dark reddish-brown slip glaze. It dates after 1900. The two stoneware body sherds include one molded jar fragment dating after 1880 and one hand-thrown special purpose vessel dating prior to 1900. Both have a dark reddish-brown slip glaze. The whiteware rim and body sherds are undecorated and probably date between 1830 and 1910. One of the porcelain fragments is an interior mason jar lid liner dating to after 1869, while the other is a fragment of unknown function and date.

The artifacts from Structure 4 consist of two bottle fragments, two stoneware fragments and 14 pieces of metal. One of the bottle fragments is the partially melted base of a food or milk jar made between 1930 and 1940, and the other is a neck portion of a machine-made bottle dating after 1910. One of the two stoneware fragments is a slip glazed handle probably derived from a jug that could not be dated. The other piece of stoneware is a rim from a milk pan with a dark reddish-brown slip glaze dating after 1900. The metal artifacts include a horseshoe fragment, a section of a bridle bit, a hame clip from a harness, a wrench, a large door hinge, a latch, three cut nails, two bolts, one square nut, an iron mold and one sickle blade from a piece of farm machinery. Most of these artifacts are not datable, although the cut nails date from about 1830 to 1890.

Site 14JF112 is situated on an upland side slope adjacent to the shoreline of Perry Lake within Perry State Park. The site consists of the foundation remains of four historic structures associated with a moderate to dense scatter of historic debris along the shoreline. Artifacts recovered from the shoreline consist primarily of bottle fragments and ceramics. Dates associated with these artifacts range from an earliest possible date of 1830 to a latest date of 1940 with most occurring between 1870 and 1940.

Artifacts recovered from Structure 1 consist primarily of domestic glass and ceramics dating from between 1830 and 1940. Those from Structure 2 include a number of glass and ceramic food storage containers such as milk bottles, mason jars, a butter crock and a milk pan. They date between 1869 and 1940 and substantiate the interpretation of the building as a cellar. Domestic artifacts, including a number of more expensive or decorative pieces of table ware, also dominated the assemblage from Structure 3 reflecting its use as a residence. The dated artifacts from the structure range from 1830 to 1910 with most falling between 1870 and 1910. The artifacts from Structure 4 are primarily metal objects associated with a barn or tool shed. The square nails suggest the structure was built between 1830 and 1890.

The artifacts recovered from 14JF112 confirm the historical record of structures at this location in 1899 and 1916. The farmsteads owned by J.S. Plouge in 1899 and C. Geoppert in 1916 were apparently quite successful, as indicated by the large number of artifacts exposed at the site, the size of the barn and its continuous occupation over a period of at least 50 years. The farmstead was apparently abandoned during the 1940s or 1950s.

14JF112 contains the best preserved and most substantial historic structural remains encountered during the Perry Lake survey, although Structure 4 is in the process of being destroyed by shoreline erosion. The site is associated with the early settlement of the project area and has the potential to increase our knowledge of the local history, especially regarding late nineteenth and early twentieth century settlement and subsistence practices. Since the site appears to have been abandoned prior to 1950, it may contain relatively undisturbed deposits from the early historic period of the project area within the

intact portions of the Vinland complex soil. Therefore, 14JF112 is recommended for further archaeological testing to determine its National Register eligibility.

14JF113

14JF113 is located on an upland side slope along the western shore of Perry Lake just south of the Grasshopper Point Group Camping Area (Figure 3). It consists of the destroyed limestone and concrete foundations of a recent farmstead. A light scatter of historic debris including ceramics, glass and building tile covered an area of about 200 sq m along the shoreline (Figure 23). Severe erosion, caused by wave action, has completely removed the upper soil horizons of the Vinland Complex soil, leaving the pale brown silty clay loam C horizon and underlying shale exposed at the surface. The shovel test placed in the center of the scatter was sterile.

A structure owned by W.H. Ricketts was located in the site vicinity according to the 1899 Jefferson County Plat, as were structures owned by M. N. Bigham on the 1916 plat. The later buildings were part of the Riverside Stock Farm. Five structures are shown at the site on the 1958 U.S. Army Corps of Engineers topographic base map of the project area. They were located between 890 and 905 ft above ms1 and were apparently destroyed during lake construction.

A total of 11 artifacts were recovered from 14JF113 including one piece of window glass, two stoneware body fragments, three pieces of whiteware, one piece of ceramic drain pipe, a brick fragment and three pieces of composition shingle. One of the stoneware fragments is from the base of a bowl made after 1880. The other is a section of a hand-thrown vessel with a brown slip and a salt glaze made prior to 1900. The two whiteware rims and one whiteware body sherd are undecorated and date between 1830 and 1910. The shingles are a type commonly used as siding after about 1930. The brick fragment, window glass and ceramic tile could not be dated.

14JF113 consists of a light scatter of historic debris surrounding the bulldozed remains of a recent cement and limestone foundation. The foundation was partially submerged beneath the multi-purpose pool of Perry Lake at the time of the 1985 investigations. Artifacts recovered from the surface indicate that the site was occupied as a Euroamerican farmstead from the late nineteenth century through the first half of the twentieth century. Shoreline erosion has completely removed the upper soil horizons and buried cultural deposits are not present at the site. 14JF113 is not considered eligible for nomination to the National Register and no further archaeological work or management is recommended.

14JF114

14JF114 is located on an upland side slope along the western shoreline of Perry Lake within the Delaware Area of Perry State Park

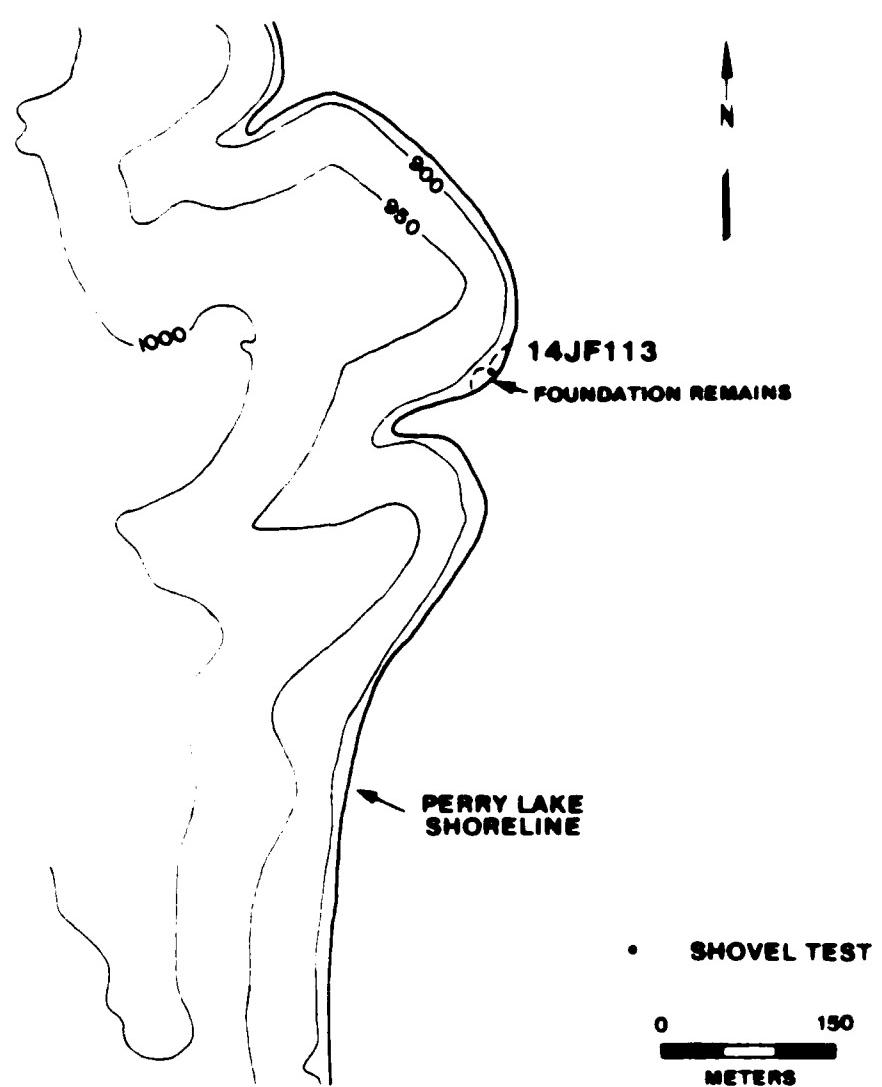


Figure 23. Location of 14JF113.

(Figure 3). The site consists of a light prehistoric lithic scatter and a moderate scatter of historic ceramics, glass, and metal artifacts associated with a bulldozed limestone and concrete foundation. Ground cover above the bare shoreline consisted of dense brush and weeds and surface visibility was generally poor.

The investigations at 14JF114 included an intensive pedestrian survey, artifact collection and the excavation of two shovel tests. The survey revealed that the scatter of historic and prehistoric artifacts overlapped and covered an area of approximately 10,750 sq m. A dry masonry limestone section wall is situated 40 m west of the bulldozed foundation at the southern edge of the site (Figure 21). It is oriented north to south and is located on the section line separating Range 17 from Range 18. A 100 percent sample of the exposed prehistoric material and a representative sample of historic artifacts were retained for analysis. The two shovel tests were excavated 20 m apart along an east to west transect cross-cutting the shoreline. Both were placed above the severely eroded portion of the shoreline and both lacked intact deposits. However, the Martin silty clay loam soil is largely intact and subsurface prehistoric deposits may be present at the site.

Structures were located at the site on both the 1899 and 1916 Jefferson County Plats. W. H. Burgess owned the property in 1899 and ownership was transferred to L. L. Wolfe by 1916. Four structures, including a house, outbuilding, barn and silo were still present at this location in 1958 between the elevations of 880 and 900 ft above msl, according to the U.S. Army Corps of Engineers topographic base map. The land was purchased from Adam Lidsey by the government and the structures were demolished prior to closure of Perry Dam in 1969.

A total of 14 prehistoric and 41 historic artifacts were recovered from the surface of the eroded shoreline at 14JF114. Prehistoric material includes one bifacial blank, two biface fragments, two chert chunks, eight flakes and one piece of shatter. Historic artifacts consist of ten bottle fragments (two lip sections, one neck fragment, five base fragments and two body fragments), one piece of pressed glass, two pieces of window glass, seven pieces of stoneware (two rims and five body sherds), seven pieces of whiteware (three rims and four body sherds), two porcelain rim sherds, two glass jar liners, a ceramic insulator, a spark plug and eight metal artifacts (a scissor, one spoon, one harness ring, three wire nails, one cut nail and one lead fishing weight). None of the prehistoric artifacts are culturally diagnostic, although the absence of pottery suggests a pre-ceramic occupation.

The glass bottle lip fragments are both machine-made and have screw tops dating after 1910. The neck fragment is a section of a clear bottle dating between 1880 and 1910. The base fragments include two amber-colored sections dating after 1855 and two clear sections dating after 1880 (as do the two clear body fragments). The pressed glass bottle stopper (Figure 22g) could not be dated. It appears to have been part of a drug store or prescription bottle. The glass canning jar liners date after 1900.

The stoneware rims include a section of a brown jug and a salt glazed bowl that date after 1900. The stoneware body sherds include one hand-thrown specimen dating prior to 1900 and four molded, slip glazed specimens dating after 1880. The whiteware rims include one without decoration dating to between 1850 and 1900, one with a transfer green leaf pattern dating after 1860 (Figure 22h) and one with a blue sponge pattern dating between 1850 and 1910 (Figure 22i). The whiteware body sherds include one piece of pearlware dating to between 1785-1830, one undecorated whiteware fragment dating to between 1830 and 1910 and one whiteware fragment marked "Crooks China" which could not be identified as to origin but dates after 1830.

The metal artifacts include a cut nail dating to between 1830 and 1890 and two wire nails dating after 1890. The scissor handle is made of iron indicating a pre-1900 date of manufacture, while the electroplated spoon handle has a small floral pattern and probably dates to the early twentieth century. The spark plug dates to within the last 50 years. It is a "Blue Crown" plug made by Motor Master Corp. of Defiance, Ohio.

14JF114 consists of a light scatter of prehistoric lithic debris intermixed with a moderate scatter of historic artifacts to the north of a destroyed limestone and concrete foundation. The prehistoric occupation of the site was apparently not very intensive and the cultural affiliation is unknown. The artifacts recovered indicate that the site was occupied prehistorically as a temporary camp where chipped stone tool manufacture and maintenance activities predominated.

The Jefferson County Plats and the project base map indicate that the Euroamerican occupation of the site occurred prior to 1899 and continued up to the time of government acquisition in the early 1960s. The artifacts recovered from the surface of the site largely confirm the historic record. Domestic and utilitarian artifacts associated with a farmstead occupation were recovered from the eroded shoreline and range from an earliest possible date of 1830 to a terminal date of about 1950. Most date to between 1880 and 1920. Three of the four historic structures present at the site in 1958 are now under the multipurpose pool of Perry Lake. The fourth structure was located during the present survey and is completely destroyed.

The shovel tests recovered no evidence of intact deposits at 14JF114 although intact soils are present above the 895 ft contour. The meager assemblage and lack of diagnostic artifacts indicate that the site has little potential to significantly add to the land history or prehistory of the project area. Therefore, no further archaeological work or management is recommended at 14JF114.

14JF115

14JF115 is located on an upland side slope adjacent to the western shore of Perry Lake about 2.5 miles south of Kansas Highway 9 (Figure 3). The site consists of a light scatter of historic debris within a field road at the upper shoreline and covers an area of approximately

600 sq m. Ground cover consisted of dense weeds with generally poor surface visibility and a 100 percent sample of observed artifacts was retained for analysis.

No evidence of a structure was encountered during the survey, although a structure is indicated at this location on the 1899 Jefferson County Plat. At that time, the land was owned by W. C. Fowler who served as the Jefferson County Recorder of Deeds from 1879 to at least 1883 (Andreas 1884). He apparently sold it to A. J. Patterson by 1916. A building is not indicated on the 1916 Plat and structures are also absent at this location on the 1958 U.S. Army Corps of Engineers base map. The building appears to have been destroyed between 1899 and 1916.

Two shovel tests were placed along a north to south transect within the site area (Figure 6). They were placed 10 m apart and were both sterile. The A horizon of the Martin silty clay loam soil is largely intact at the upper shoreline, or at about 900 ft above rsl. Further down the slope, the soil is highly eroded adjacent to the multipurpose pool of Perry Lake.

A total of nine artifacts were recovered from the surface of 14FE15, including two pieces of bottle glass, three stoneware rim sherds, two stoneware body sherds, one whiteware rim sherd and one whiteware body sherd. The bottle glass consists of two clear body fragments manufactured after 1880. One of the stoneware rims is from a gray body with a metallic brown slip glaze on the interior. It may have been collied and dates after 1880. The other two stoneware rim sherds and the two stoneware body sherds could not be dated but probably represent portions of bowls or small crocks. The whiteware rim sherd is from an undecorated cup or small bowl and dates to between 1830 and 1900, while the undecorated whiteware body sherd dates to between 1830 and 1910.

14FE15 consists of a very light scatter of historic glass and ceramics. The scatter is located about 100 m west of the water's edge within an access road that leads to a largely destroyed boat ramp. No evidence of a structure or intact subsurface cultural deposit was encountered at the site. The artifacts recovered from the surface date to between 1830 and 1910 indicating that 14FE15 is probably associated with the W. C. Fowler farmstead shown at this location in the 1899 Jefferson County Plat that was apparently destroyed prior to 1916. Fowler held a minor post in the local government, serving as Recorder of Deeds from 1879 until at least 1883. Since no intact subsurface artifacts or structural features were encountered during the investigations, 14FE15 is not considered eligible for the National Register and no further archaeological work or management is recommended.

14FE16

14FE16 is located on a high terrace at the western shore of Perry Lake about a half mile south of Kansas Highway 9 (Figure 9). The site is situated on a low peninsula that projects eastward into the lake and

consists of a light to moderate scatter of historic brick, limestone, glass, ceramics and metal. Ground cover consisted of 2 ft high molo across the top of the terrace with weeds along the shoreline (Figure 24). The scatter of historic debris covered an area of approximately 6000 sq m.

Two former structures appear to be represented (Figure 25). Structure 1 is located at the southern edge of the peninsula and judging from the debris scatter was apparently a fairly substantial brick building, probably occupied as a residence. Structure 2 is located about 100 m to the north at the edge of the peninsula, and was apparently a small wooden structure with a limestone foundation. This structure may have been an outbuilding or barn. Intact foundations were not encountered at these locations and the dimensions of the former buildings are unknown.

The site is located within the former town site of Pleasant Hill, Kansas originally surveyed in November of 1855 (Calhoun 1856). As it appears on the 1856 GLO map, Pleasant Hill consisted of a 148.86 ac tract. Although structures are not indicated within the boundaries of Pleasant Hill on the 1856 GLO map, Andreas (1883) reported that the town was occupied as the tree state headquarters for the township beginning in 1854 and contained three or four buildings. The name Pleasant Hill continues to be used in the project area and occurs on the Pleasant Hill School House, built in 1888, which still stands about 2 miles northwest of L. Hill.

The 1899 Jefferson County Plat locates a building in the vicinity of Structure 2 owned by W.E.S. Miley but nothing is shown near Structure 1. The 1916 Plat of Jefferson County indicates that the land was still owned by W.E.S. Miley, and that structures were absent in the site area. A road traverses the site area on the 1958 U.S. Army Corps of Engineers topographic base map, but no structures are indicated. These records indicate that the site was initially occupied shortly after 1855 but prior to 1899 and was abandoned as early as 1916 but certainly before 1958, by which time it was completely destroyed.

Two shovel tests were excavated at the site. They were placed adjacent to the structural remains but no subsurface deposits were encountered. Above the eroded shoreline, the plowzone extends to a depth of about 20 cm is underlain by the dark brown silty clay loam B1 horizon of the Gymer silt loam soil (Dickey et al. 1977). The upper soil horizon in the vicinity of Structure 2 has been completely removed by shoreline erosion and the dark reddish brown subsoil is exposed at the surface. The site has been completely destroyed by cultivation and shoreline erosion. It has little potential for intact cultural materials.

A total of 31 artifacts were recovered from the surface of Ischill including five bottle fragments, one piece of window glass, two stoneware rim sherds, two stoneware body sherds, four whiteware rims, three whiteware body sherds, one porcelain rim sherd, three metal artifacts and one small brick fragment. Three of the whiteware sherds and the metal artifacts were found near Structure 1. The undecorated

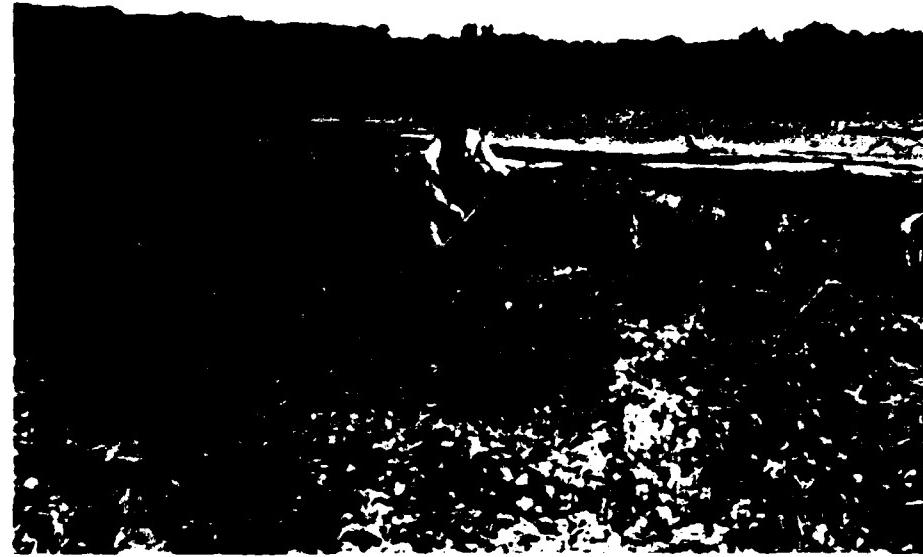


Figure 24. General views of sites 14JF116 and 14JF117: view to the northwest of shovel testing at 14JF116 (upper); view to the east of Structure 3 foundation remains at 14JF117 (lower).

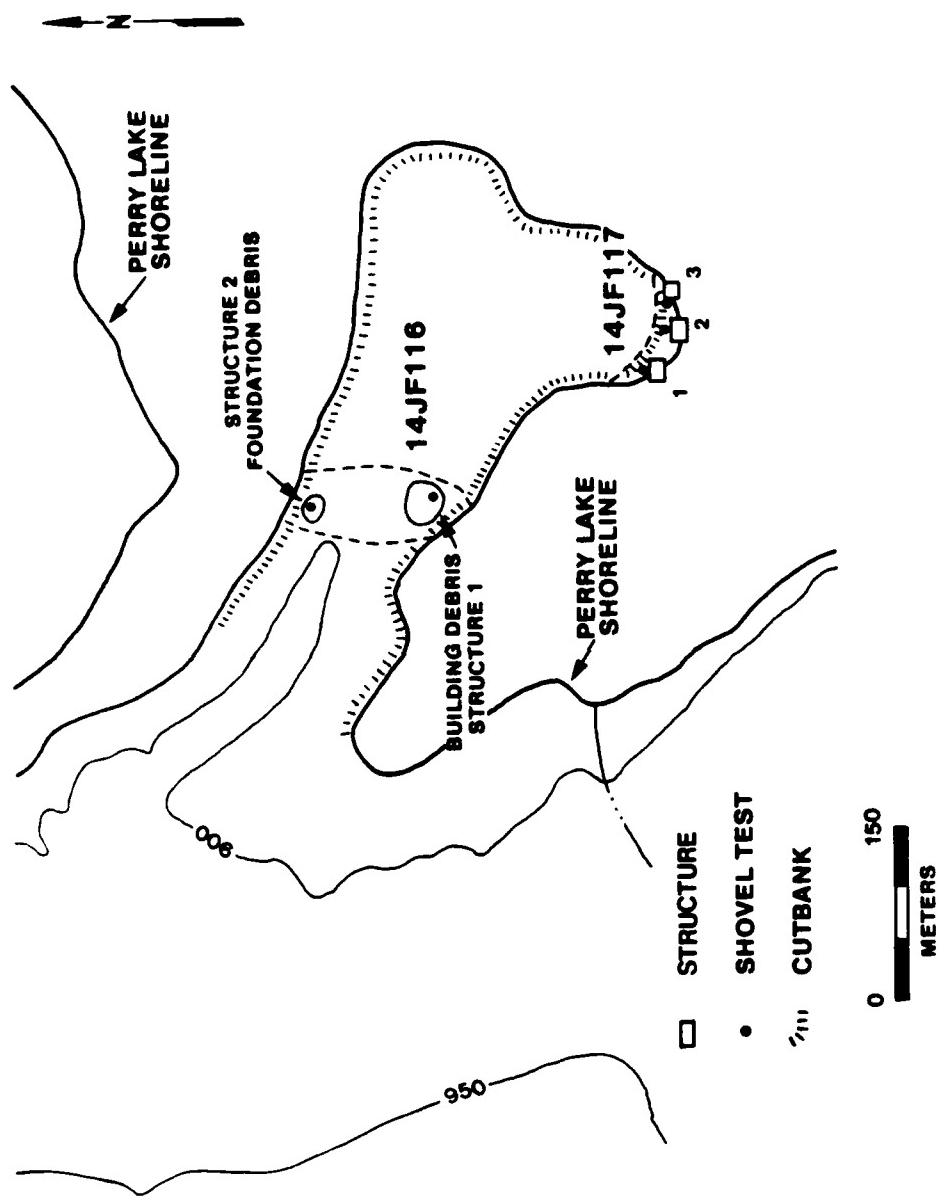


Figure 25. Location of 14JF116 and 14JF117.

whiteware rim and body fragments date the structure between 1830 and 1910, while the cut nail indicates a date prior to 1890.

The rest of the cultural material was recovered from a fairly restricted area in the vicinity of Structure 1. The bottle glass includes three lip fragments, two of which are too incomplete for identification, but were not machine-made and date prior to 1910. The third is a section of a clear prescription or proprietary bottle manufactured within a two piece mold dating between 1880 to 1910. The remaining bottle glass includes one unidentifiable body section and a clear glass base fragment manufactured after 1880. The stoneware from the vicinity of Structure 2 includes two rims and two body sections of small bowls or crocks dating prior to 1900. One of the whiteware rims may be a piece of pearl ware dating to between 1785 and 1830 (Figure 22j). The other two undecorated whiteware rims date to between 1830 and 1910. The decorated porcelain rim fragment could not be dated.

14JF116 is located on a high terrace at the western edge of Perry Lake and consists of a light to moderate scatter of historic debris associated with two destroyed buildings. The site appears to be associated with the W.E.S. Miley farmstead that was settled prior to 1899 and perhaps with the earlier townsite of Pleasant Hill, Kansas that was occupied as early as 1854. Structures are shown at the site in 1899 but may have been destroyed prior to 1916.

14JF116 has been repeatedly plowed resulting in the dispersal of artifacts across the terrace surface. Subsurface cultural deposits are not associated with either of the structures. Artifacts recovered from the surface indicate that Structure 1 was at least partially constructed of brick and served as a residence. The recovery of a cut nail and harness fittings from Structure 2 suggests it was a wooden building which served as a stable, barn or outbuilding. The artifacts from the site are typical of a farmstead occupation and date between 1785 to 1910. Most fall into the period from 1880 to 1910 consistent with the recorded period of occupation for the Miley farmstead. The few artifacts from an earlier period may be associated with the early townsite of Pleasant Hill. Both structures have been destroyed and the site appears to be completely plowed out. No evidence of intact cultural deposits were encountered during the present investigations and 14JF116 is not considered eligible for the National Register. Therefore, no further archaeological work or management is recommended.

14JF117

14JF117 is located at the southeastern edge of the same peninsula as 14JF116 (Figure 3). It consists of three destroyed, partially submerged, concrete and limestone foundations surrounded by a scatter of historic debris and covering an area of about 6000 sq m (Figure 25). One prehistoric flake was found on the eroded shoreline at the northwestern edge of the site. Ground cover consisted of dense weeds above the bare shoreline and surface visibility ranged from very good along the shore to generally poor within the weeds.

Structure 1 consists of a limestone and concrete foundation that measures about 4 by 6 m. It has four galvanized metal posts immediately adjacent to it that appear to represent the base of a windmill. Structure 2 is located 15 m west of Structure 1 and is a limestone and concrete foundation measuring 5 by 6 m. It is connected by a concrete sidewalk to Structure 3, which is located 20 m north, and consists of a 6 by 8 m cement slab foundation (Figure 24). The site is referred to locally as "milk house point" and is reported by area residents to be the location of a former dairy farm. Shovel tests were placed within or adjacent to each of the structures but subsurface deposits were not present.

The site is also within the boundary of the historic townsite of Pleasant Hill, Kansas, as that town was recorded on the 1856 GLO Survey. Structures are not shown in the area at that time but are present in the vicinity of 14JF117 on both the 1899 and 1916 Jefferson County Plats when the land was owned by Fritz Luttjohn. The three structures associated with the foundations described above are shown on the 1958 U.S. Army Corps of Engineers project base map. The structures were purchased by the government from the E. N. Sudendorf estate during the acquisition of project lands and were apparently bulldozed during lake development.

A total of one prehistoric and 53 historic artifacts were recovered from the surface of 14JF117. The historic material includes 26 items from the vicinity of Structure 1, 21 from the area of Structure 2 and six recovered adjacent to Structure 3. The prehistoric artifact is a chert flake recovered along the shoreline 30 m northwest of Structure 3. No other prehistoric material was observed at the site.

Artifacts from Structure 1 consist of eight bottle fragments, five stoneware rims, three stoneware body sherds, two whiteware vessel lids, two whiteware rims, two whiteware body sherds, three pieces of porcelain and a metal spoon. The bottle lip fragments include one small machine-made extract or drug bottle dating after 1910 and the lip of a broad seal canning jar with a screw top that was machine-made after 1915. The six bottle base fragments include a clear base made after 1880; the base of a jar marked with "LAYTON'S/HEALTH/BAKING POWDER" designed for secondary use as a drinking glass; the base of a blue prescription or drug bottle with a maker's mark indicating it was manufactured after 1916 by the Maryland Glass Corporation, Baltimore, Maryland (Toulouse 1972:339); the base of a clear prescription bottle made by the Illinois Glass Company of Alton, Illinois between 1916 and 1929; and two unidentifiable base fragments.

The five stoneware rim sherds include three fragments of molded milk pans and two sections of small bowls or crocks. They probably date to the early 1900s while the three stoneware body sherds date after 1880.

The whiteware vessel lids include a largely reconstructed lid of a chamber pot with a molded design dating between 1850 and 1900 and the unidentified lid of a small container. The whiteware rims include one undecorated rim of a small bowl dating between 1850 and 1900 and a cup

fragment with a transfer printed bluish underglaze leaf design dating between 1860 and 1910. The whiteware body fragments consist of a cup handle with a molded design dating between 1850 to 1900 and the base of a small plate or saucer with a mark indicating manufacture by Johnson Bros., England, "Royal Ironstone China", made in the Staffordshire pattern between 1883 and 1913 (Godden 1964:335). The porcelain rims include a canning jar lid liner dating after 1869 and a plate rim section with a transfer printed multi-colored underglaze design dating after 1860. The metal spoon is electroplated and probably dates to the late nineteenth or early twentieth century.

The artifacts from Structure 2 consist of eight bottle fragments (one lip, four bases and three body sections), one piece of pressed glass, one piece of window glass, one stoneware rim, three stoneware body sherds, two whiteware rims, one porcelain rim, one miscellaneous ceramic fragment and three metal artifacts. The lip fragment is a section of a machine-made bottle dating after 1910. The four base sections include two clear fragments dating after 1880 and two undiagnostic fragments. The three colored glass body fragments are also undiagnostic. The pressed glass fragment is a section of opaque white glassware dating after 1870. The stoneware rim is a section of a molded milk pan or bowl with a salt glaze made after 1890. The three stoneware body sherds include sections of bowls or crocks dating after 1880. The porcelain rim is a canning jar lid liner dating after 1869 and the whiteware rims both exhibit molded decorations indicating they were manufactured between 1850 and 1900. The metal artifacts include a wire nail, a piece of copper tubing and a section of a wire rim from an eye glass. The wire nail dates after 1890.

The six artifacts recovered near Structure 3 consist of one glass bottle base, one earthenware body sherd, one whiteware rim and three whiteware body sherds. The glass base is from a wide mouthed food container or milk bottle with a machine made valve mark-made between 1930 and 1940. The earthen ware sherd is a piece of Rockingham ware with a cream body and a mottled yellow and brown slip glaze. This ware was made from 1830 onwards but the corn-cob decoration on this specimen could not be more specifically dated. The whiteware rim is a section of an undecorated cup dating between 1850 and 1900. The whiteware body sherds include an undecorated pitcher handle (1830-1920), a base fragment of a small plate or saucer (1830-1910) and a base section with the mark "Semi-Vitreous/Porcelain/U.S.A./East Liverpool/Potteries Co." manufactured between 1901 and 1907 by an Ohio firm (Gates and Ormerod 1982:44).

14JF117 consists of three destroyed, partially submerged, limestone and concrete foundations surrounded by a dense scatter of historic debris. The site is located on a high terrace that projects eastward into Perry Lake within the area of the historic townsite of Pleasant Hill, Kansas. The historic occupation of 14JF117 apparently did not begin at that time, since improvements are not indicated on the 1856 GLO map. The site area was occupied by at least 1899 and continued through 1916. The three structures represented by the foundations encountered at 14JF117 were still standing as of 1958 and were destroyed prior to completion of Perry Lake in 1969.

The artifacts recovered from the surface of the site are typical of a Euroamerican farmstead of the late nineteenth and early twentieth centuries. Although they range from 1830 for the earliest to 1940 for the most recent, the majority date between 1880 and 1910, indicating that the structures represented are associated with the Luttjohn farmstead. Very few of the artifacts date to the period of the occupation of Pleasant Hill.

The extensive use of poured concrete in Structure 3 would seem to confirm a later date of construction for this structure, while the recovery of a number of earlier artifacts from Structures 1 and 2 suggest that these buildings were present in the site area over a longer period of time. All three buildings were removed during lake development and subsurface cultural deposits were not encountered. The severity of the shoreline erosion indicates that little potential exists for intact deposits at 14JF117. Therefore, the site is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF118

14JF118 is located on a T-1 terrace along the shoreline of Perry Lake at the southwestern edge of the Old Town Public Use Area (Figure 3). It consists of four limestone and cement foundations and a scatter of historic debris associated with the former townsite of Ozawkie, Kansas (Figure 8). The site area is currently used as a campground with mown grass above the bare, eroded shoreline. Surface visibility was poor and the limestone and cement foundations have been exposed by shoreline erosion. They are partially intact and are flanked to the north by a scatter of historic artifacts covering approximately 6000 sq m along the former route of Kansas Highway 92.

The town of Ozawkie was initially laid out in October of 1855 and consisted of a rectangular tract of land covering 320.3 ac (Calhoun 1856). The military road from Fort Leavenworth to Fort Riley ran through the northwestern corner of the town and crossed Grasshopper Creek (the Delaware River) immediately west of the townsite. The extent of the earliest development was apparently not well recorded, since no plat was placed on file with the Surveyor Generals Office in Wyandott (now Kansas City, Kansas) as of March 5, 1856. The town was initially settled in spring of 1854 by W. F. and G. M. Dyer, who built a store and trading post along the military road. This building was still standing as of 1883 when it was used as the town's post office (Andreas 1883:523). Although the original survey placed the town within both Sections 31 and 32, development as of 1899 was largely restricted to Section 31. The small area located within Section 32 was referred to as the "A. J. Feeblers Addition".

The 1899 Jefferson County Plat identifies five stores, three churches, a school, a post office, a hotel, a livery, a flour mill and the train depot of the Leavenworth, Topeka and Southwestern Railroad within the town. Most of the early commercial and civic development of Ozawkie was centered along Spruce Street, between Julia and Delaware

streets, or about 50 m north of the foundation remains observed along the shoreline. The foundations encountered during the survey appear to be associated with a row of six houses or commercial buildings located along Delaware Street on the 1899 Plat. Delaware Street represented the major east to west thoroughfare at the southern edge of town and later became the route of Kansas Highway 92. Julia Street, located one block north, crossed the Delaware River at the western edge of town and probably served as a portion of the old military road from Fort Leavenworth to Fort Riley during the early development of Ozawkie. The names of the owners of the structures along Delaware Street are noted on the 1899 Plat and include M. A. Welland, W. P. Franc, C. C. Low and O. C. Dewey.

These same names appear on the 1916 Plat by which time the town had expanded slightly to the northeast with the "Cunnings Addition". The churches, school and train depot are still present on the 1916 Plat but the flour mill and livery are no longer indicated. Minor adjustments in the business district included the addition of a bank and the phone exchange, as well as a new rail station adjacent to the Leavenworth and Topeka Railroad at the southwestern edge of town.

By 1958, well over a hundred buildings were present at Ozawkie, including the four represented by the foundations that were encountered during the 1985 survey. The land upon which these structures stood was purchased from Lloyd Graham and Edna Michael by the government for lake development. These structures, along with the entire town of Ozawkie, were bulldozed and covered with about 30 cm of fill. A shovel test placed adjacent to one of the structures and the eyewitness account of a local informant indicate that extensive areas of subsurface cultural deposits remain at the site within the Old Town Public Use Area.

A selected artifact sample from the surface of 14JF118 was recovered for analysis. All of the artifacts were recovered from the eroded shoreline and include seven glass bottle fragments and one stoneware rim sherd. One of the two lip fragments is from an aqua-colored bottle with a double applied lip dating between 1870 and 1910. The other lip section is a fragment of a machine-made jar with non-continuous threads indicating a date between 1910 and 1930. A neck and shoulder section of clear glass, perhaps representing a drugstore, proprietary or prescription bottle appears to have been machine-made. It dates after 1880, as do two clear base fragments also recovered from the site. Neither of the two aqua-colored body fragments could be dated.

The whiteware rim sherd is from a cup decorated with three horizontal blue bands. It may represent a piece of blown blue ware dating from 1830 to 1860 but which was also made around 1900. The later date appears more likely given the generally later dates of the other artifacts.

14JF118 consists of four partially intact limestone and cement foundations eroding out of the shoreline of Perry Lake. The site is situated at the southwestern edge of the Old Town Public Use Area and is currently used as a campground. The structures are part of the historic

townsite of Ozawkie, Kansas, one of the earliest and largest towns in the project area.

Ozawkie was initially laid out in 1855 and served as the first county seat of Jefferson County, as well as a center of pro-slavery activities prior to the Civil War. The town experienced an initial florescence which lasted until 1858 when the county seat was moved to Oskaloosa. The town went through a period of rapid decline lasting for several years but gradually reemerged as a viable community after the Civil War. By 1880, Ozawkie had a small hotel, livery stable, churches, a school, a flour and grist mill, a blacksmith and wagon shop, and a livery stable. The town generally prospered throughout the remainder of the nineteenth and into the twentieth century. The small sample of artifacts recovered from 14JF118 primarily date to between 1880 and 1930 indicating that the structures encountered along the shoreline date to the later period of Ozawkie's development.

After aquisition by the federal government, the old town of Ozawkie was destroyed and covered with topsoil. The residents of the town moved to a new location prior to the closure of Perry Dam in 1969. 14JF118 appears likely to contain subsurface buried deposits which may be of local, as well as regional, historical significance. Early building techniques, trade patterns and settlement in a pro-slavery townsite are but a few of the potential research questions which such an archaeological deposit could potentially address. Therefore, additional testing is recommended to determine if 14JF118 is eligible for the National Register.

14JF119

14JF119 is located on an upland side slope just east of the Longview Public Use Area on the eastern shoreline of Perry Lake (Figure 3). The site consists of a light scatter of prehistoric and historic debris exposed along the eroded shoreline. Ground cover above the denuded shore included grass and dense weeds giving generally poor surface visibility.

The investigations at 14JF119 included an intensive pedestrian survey, artifact collection and the excavation of one shovel test. The survey revealed that the scatter of prehistoric and historic debris overlapped and covered an area of approximately 1250 sq m. A 100 percent sample of prehistoric debris and a representative sample of historic artifacts were retained for analysis. The shovel test was placed at the upper edge of the shoreline at about 900 ft above msl and did not encounter subsurface cultural material (Figure 26). The A horizon of the Vinland complex soil was severely eroded, indicating little potential for intact deposits.

Two structures are located immediately adjacent to the site area on the 1899 Jefferson County Plat. These include a residence and a mill owned by E. T. Slayer. The land was still owned by Slayer in 1916, but structures are not indicated. Buildings were also absent at this location in 1958 after which the land was purchased from George B. Hesse by the government for lake development.

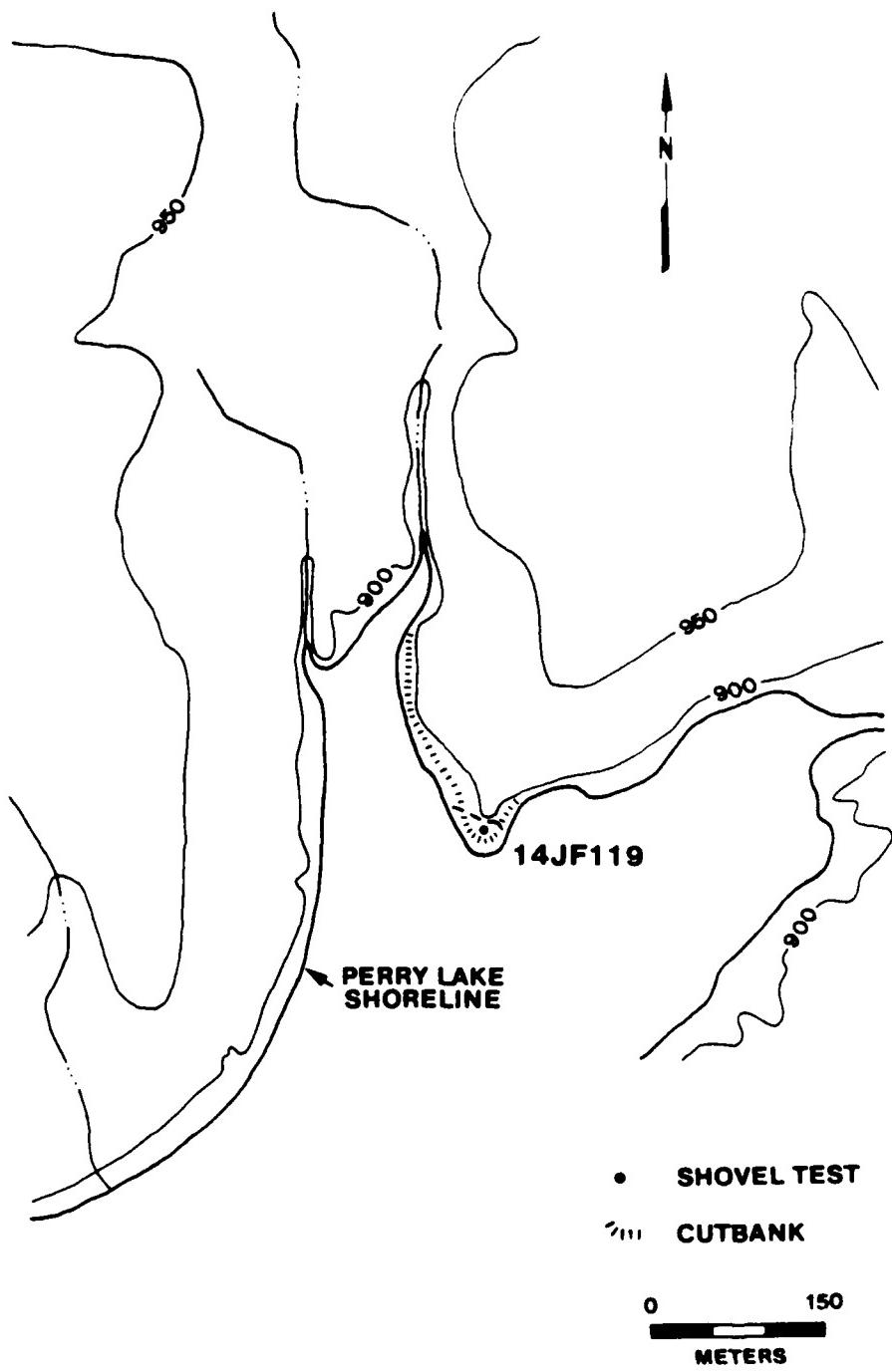


Figure 26. Location of 14JF119.

A total of 24 prehistoric and 12 historic artifacts were recovered from the surface of 14JF119. The prehistoric debris includes one edge-modified flake, three cores, four flakes, nine chips, four pieces of shatter, one hammerstone and two pieces of unworked stone. The historic artifacts consist of one piece of bottle glass, one piece of window glass, seven ceramic sherds and three metal artifacts. None of the prehistoric artifacts are temporally or culturally diagnostic. The hammerstone and lithic debris suggest that the site was occupied as a short-term special purpose extractive camp where chipped stone tools were manufactured.

The historic bottle fragment is a piece of clear glass dating after 1880. Stoneware includes two sections of a cream-colored, slipped and salt glazed crock which could not be dated. Whiteware includes four rims and one body sherd. Two of the rims are undecorated and date between 1850 and 1900, while the other two are decorated with small multicolored trailing flowers and date between 1860 and 1910. The metal artifacts include a mini-ball and two lead fishing weights of uncertain date.

14JF119 consists of a light scatter of historic and prehistoric artifacts. The prehistoric occupation of the site was not very intensive and probably consisted of a small special purpose campsite. Although historic structures are recorded adjacent to this area on the 1849 Jefferson County Plat, no foundation remains were encountered at the site. The recovery of one piece of window glass indicates that buildings were once present in the vicinity. The artifacts generally date to the late nineteenth century and the site is probably associated with the F. T. Slauer farmstead recorded at this location in 1899, but which was apparently destroyed by 1916. No intact subsurface deposits were encountered and the eroded soil offers little potential for their presence at the site. Therefore 14JF119 is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF120

14JF120 is located on an upland side slope along the western shore of the Slough Creek arm of Perry Lake just east of the Slough Creek Public Use Area (Figure 3). The site consists of three destroyed foundations surrounded by historic debris which represent a Euroamerican farmstead (Figure 27). Ground cover included trees and sparse weeds above the flooded shoreline and surface visibility was generally good. Structure 1 consisted of a 8 by 18 m concrete slab abutting a 3 by 7 m concrete slab of a possible driveway that may have been a garage, barn or outbuilding. Structure 2 is located 20 m east of Structure 1 and consists of a 16 m long concrete and limestone foundation wall adjacent to a concentration of historic debris. It appeared to represent a former residence. Structure 3 is located 40 m east of Structure 2 and consists of a 5 m long linear arrangement of several large, dry masonry limestone foundation blocks adjacent to a tree growing through a metal spoke wheel of a farm implement. This structure was probably a barn.

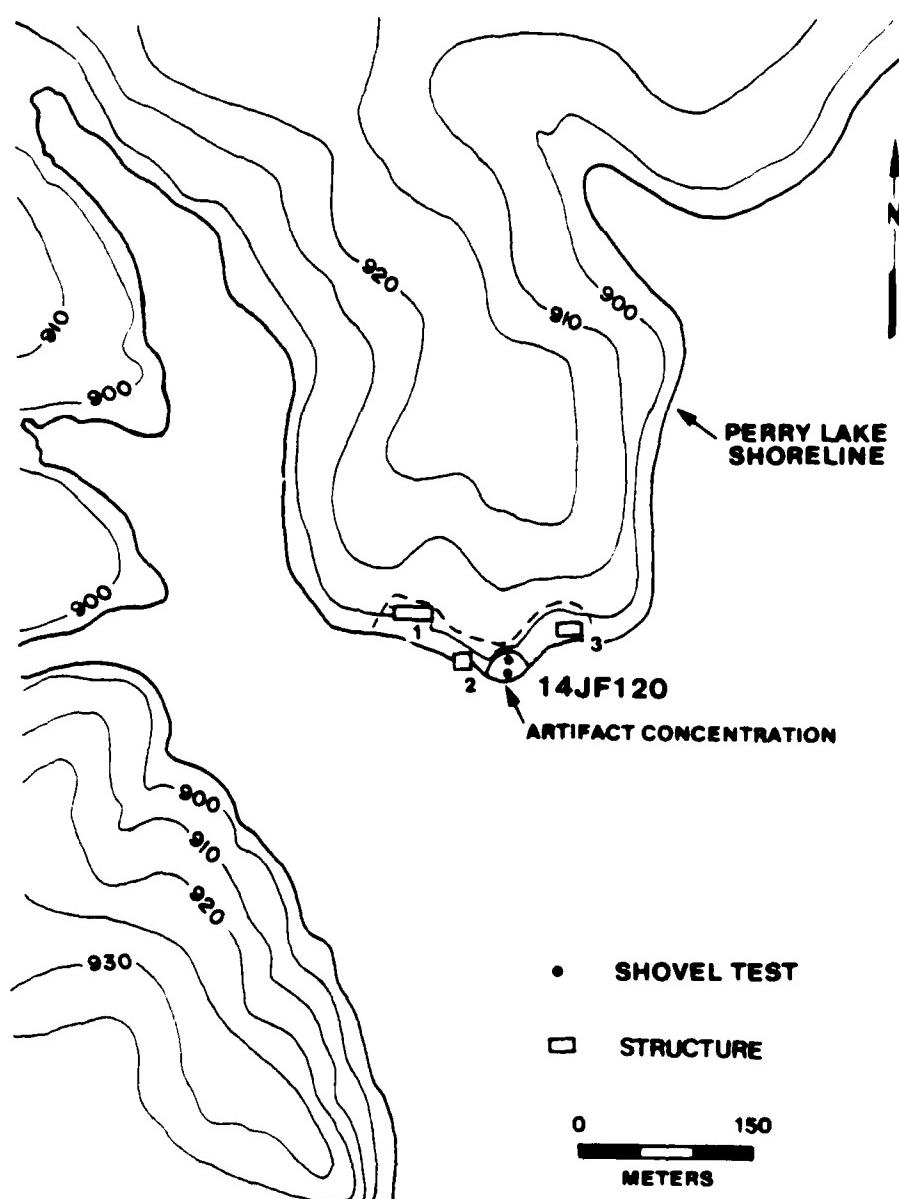


Figure 27. Location of 14JF120.

The investigations at 14JF120 included an intensive pedestrian survey, artifact collection and excavation of two shovel tests. The survey revealed that the structural remains and associated scatter of historic artifacts covered an area of about 4000 sq m. Representative samples of artifacts were recovered from Structures 1 and 2. No artifacts were recovered within the area of Structure 3. The shovel tests were excavated 20 m apart along a north to south transect placed at the eastern edge of Structure 2 (Figure 27). Subsurface artifacts were not encountered and the upper soil horizon of the Sogn-Vinland complex soil has been largely removed by shoreline erosion. This indicates that there is little potential for intact subsurface deposits at the site.

Structures are indicated at 14JF120 on the 1899 Jefferson County Plat. At that time, the property was owned by H. Betty's, who settled on the property in 1866 and was a carpenter and farmer (Andreas 1885). He apparently sold the land to J. P. Worthington by 1916 with the structures still intact. Seven buildings are located in the site area between the elevations of 890 and 905 ft above msl on the 1958 U.S. Army Corps of Engineers topographic base map. They were purchased by the government from W. M. Worthington and were destroyed during lake development. The lake had risen to 896.0 ft above msl during the survey and the remains of the other four structures were under the multipurpose pool.

A total of 24 artifacts were recorded from the surface of 14JF120. Only one artifact, an iron stove leg which could not be dated, was recovered from Structure 1. The remainder of the artifacts are from the 150 sq m concentration to the east of Structure 2. They include 11 pieces of bottle glass, two pieces of pressed glass, eight ceramic sherds, one metal artifact and a piece of graphite.

One of the bottle fragments is a lip section of a clear glass prescription, proprietary or food extract bottle made in a two piece mold dating between 1880 and 1910. Two glass rim sections from mason jar lid liners were recovered. One was made by Boyd and dates after 1900 but the other could not be dated. One of the two base fragments is from food storage containers or milk bottles and has a machine-made scar indicating a date after 1910, while the other exhibits the trademark of the Myers Illinois Glass Co. of Toledo, Ohio and was made in Alton, Illinois between 1930 and 1950. Except for a piece of clear glass dating after 1880, the remaining bottle glass could not be dated. The two pressed glass fragments are sections of decorative or serving ware. One has a swirl pattern and the other is decorated with what appears to be a diamond pattern, both dating to the 1880s (Lee 1973:523-25).

The ceramics from 14JF120 consist of two pieces of stoneware and six whiteware fragments. One of the stoneware sherds is a rim section of a molded milk pan with a cream colored body and a salt glaze dating after 1900. The other is a base fragment of a crock with a brown slip glaze on the interior and brown salt glaze on the exterior which dates after 1880. Two whiteware rims were recovered, including a section of an undecorated plate or platter dating between 1850 and 1900, and the

top to a tea pot, sugar bowl or similar container dating between 1830 and 1910. The four whiteware body sherds include one undecorated plate fragment dating between 1830 and 1910; one with a blue sponge-splat ware decoration dating between 1850 and 1900; one with a transfer printed, multicolored flower design ("decalcomania") dating between 1860 to 1910; and one with the mark "IRONSTONE CHINA/J & G MEAKIN/HANLEY/ENGLAND" manufactured after 1890 by J & G Meakin (LTD), Eagle Pottery and Eastwood Works, Hanley Staffordshire Potteries (Godden 1964:47). The metal artifact is a lamp chimney cover which could not be dated, while the graphite is from a dry cell battery of unknown date.

14JF120 consists of three destroyed foundations surrounded by historic artifacts consisting of glass, ceramics and metal, indicating the former presence of a Euroamerican farmstead. At the time of the 1985 investigations, the water level of Perry Lake had reached 806.0 ft above msl and the shoreline was largely flooded. The foundations of four additional structures shown at this location on the 1958 U.S. Army Corps of Engineers base map were apparently submerged at that time.

The artifacts recovered from the surface of the site in the vicinity of Structure 2 date from an earliest possible date of 1830 to a latest possible date of 1950. Most fall within the period from 1860 to 1910 indicating that the site represents the H. Betty's farmstead dating from 1866 and shown on the 1899 Plat of Jefferson County, Kansas. The site was owned by J. P. Worthington in 1916 and was purchased from W. M. Worthington in 1963 by the government during the lake development. Subsurface artifacts were not encountered within the shovel tests at the site and the severely eroded condition of the site indicates that there is little potential for intact deposits. 14JF120 is not known to be associated with individuals or events important to the local history of the project area and is not considered eligible for the National Register. No further archaeological work or management of the site is recommended.

14JF121

14JF121 is located on an upland side slope above the eastern shore of the Slough Creek area of Perry Lake one mile east of 14JF120 (Figure 3). The site consists of a dry masonry limestone wall which measures 1.3 m in height and more than 70 m in length. It was constructed of seven courses of cut limestone blocks and is situated at the boundary separating Sections 33 and 34 within an area of approximately 1200 sq m. Most of the wall is located outside of the survey boundary and artifacts were not recovered from within the site area (Figure 28).

Structures are absent at this location on the 1899 Jefferson County Plat, when the wall separated the property of Ludwig Fisher, Patrick Hackett and John Shartall. No structures were present at this location in 1916 when the wall separated the property of Freda Fisher, Stephen Hackett and W.J. Lawton. The 1958 U.S. Army Corps of Engineers base map also fails to indicate buildings in the area. The government purchased the land from Norman R. Hamm and Glen G. Allen in 1963.

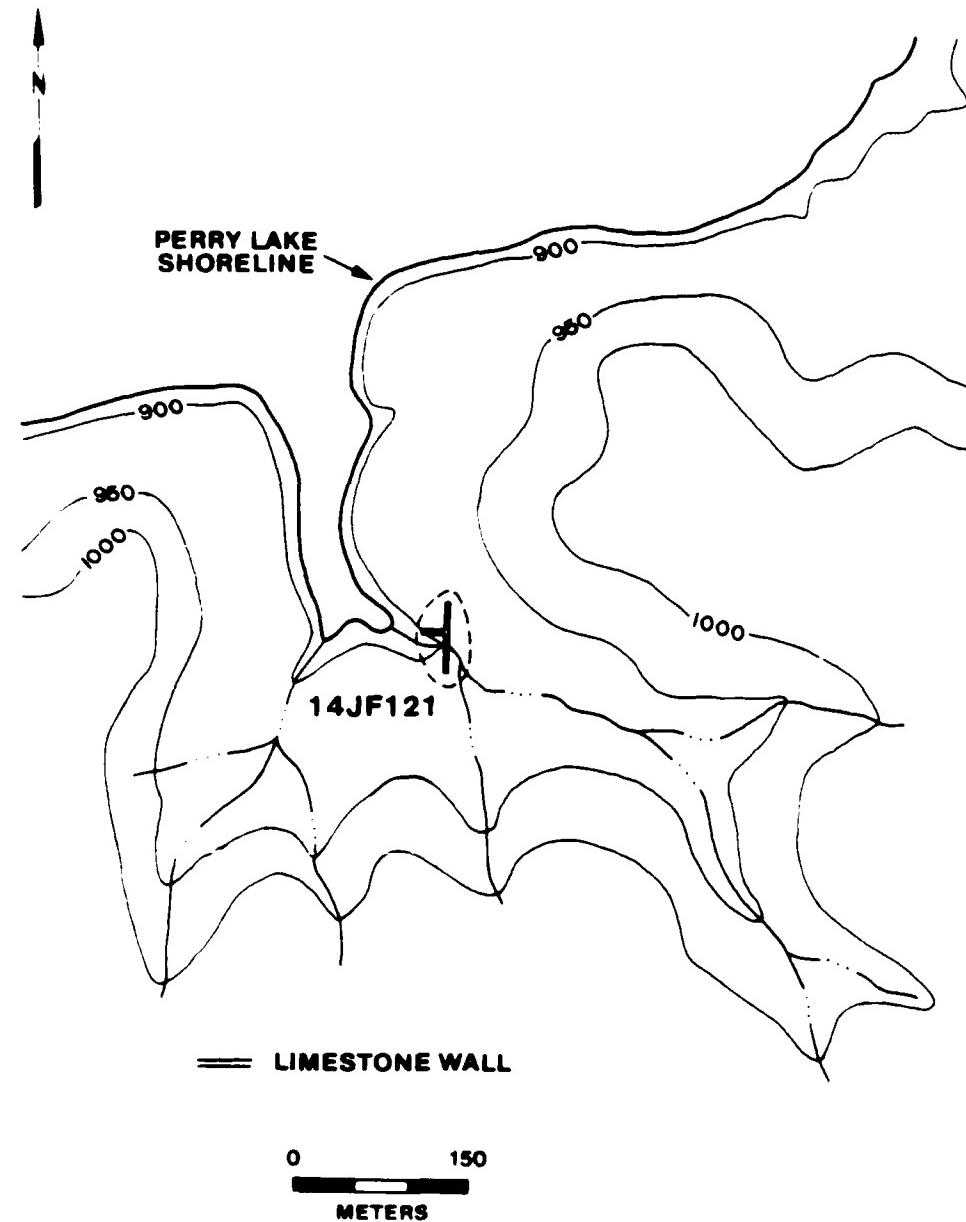


Figure 28. Location of 14JF121.

14JF121 consists of a dry masonry limestone wall marking the boundary between Sections 33 and 34. Although largely intact, it is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF122

14JF122 is located on an upland side slope above the eastern shore of the Slough Creek arm of Perry Lake at its confluence of Evans Creek (Figure 3). The site consists of a destroyed concrete and limestone foundation associated with a light scatter of historic glass, ceramic and metal artifacts. The limestone and cement foundation underlies a concrete wall which is 1 m high and 16 m long. It was partially submerged and appears to represent one half of the foundation of an open-ended barn or outbuilding (Figure 29). Ground cover consisted of grass and weeds above the largely flooded, severely eroded, shoreline and surface visibility was fair.

The 1985 investigations included an intensive pedestrian survey, artifact collection and the excavation of one shovel test. The survey revealed that the foundation remains and artifact scatter covered an area of approximately 600 sq m and that the site extends to the west beneath the multipurpose pool of Perry Lake. A representative sample of artifacts was retained for analysis and two shovel tests were excavated in the upper portion of the shoreline. Subsurface artifacts were not encountered and the A horizon of the Sogn-Vinland soil complex is largely eroded. The site therefore offers little potential for intact deposits.

Structures are not indicated at the site on the 1899 Jefferson County Flat when the land was owned by Mary Byer. The land was sold to Nellie M. Shaw by 1916 when a structure was located just west of the site area. Five structures are shown in the area on the U.S. Army Corps of Engineers base map between 910 and 920 ft above msl. They were apparently destroyed after the land was obtained by the government from Fred T. Shaw during lake construction.

A total of 15 artifacts were recovered from the surface of 14JF122 consisting of six pieces of bottle glass, one piece of window glass, five ceramic sherd, a ceramic door knob and two metal artifacts. The bottle glass includes a complete lip section of a clear proprietary, prescription or food extract bottle manufactured in a two piece mold between 1880 and 1910 and a fragment of a single applied lip dating after 1870. The remaining bottle glass fragments are two base sections and two body sections of lavender and aqua-colored glass which could not be dated.

The ceramics include two stoneware rims, one of which appears to represent a gray bodied crock with a salt glazed exterior and brown slipped interior surface that could not be dated. The other is a section of a milk pan with a buff-colored molded body, salt glazed rim, and brown exterior slip glaze dating after 1900. Whiteware recovered from the surface includes one rim and two body sections of undecorated

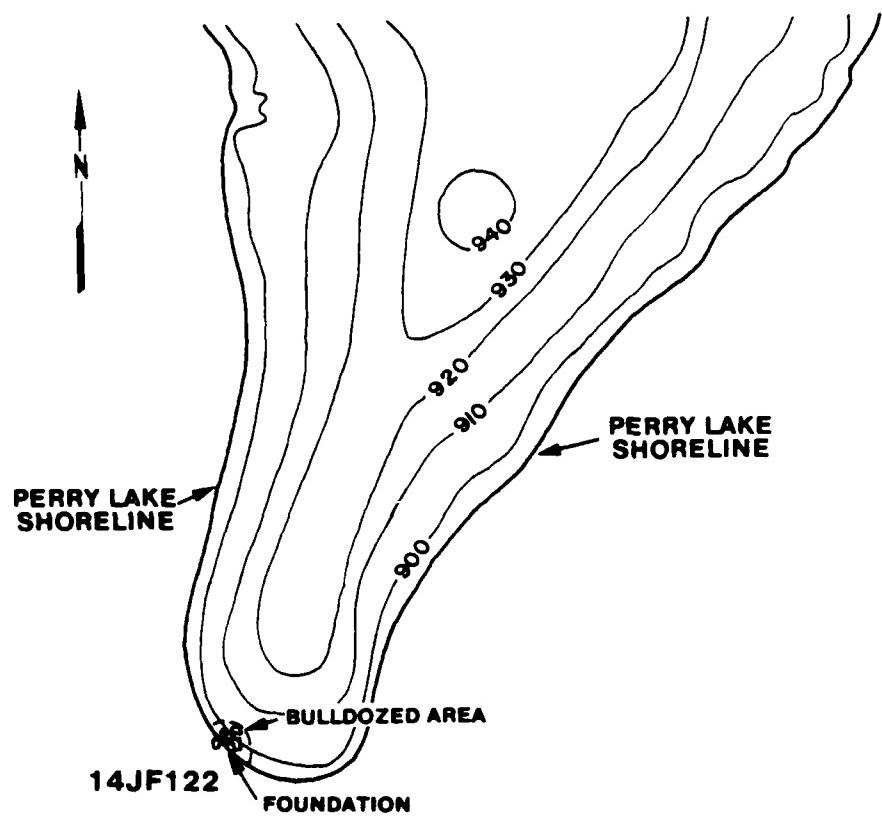


Figure 29. Location of 14JF122.

utilitarian ware dating between 1830 and 1910. The ceramic doorknob dates between 1880 and 1920. Metal artifacts consist of a cut nail dating between 1830 and 1890 and a piece of scrap iron which could not be dated.

14JF122 consists of the destroyed foundation of a Euroamerican farmstead. Jefferson County Plats indicate the site was first occupied between 1899 and 1916 and was destroyed during lake development after 1958. The artifacts recovered from the surface of the site date between 1830 and 1910 indicating that a structure may have been present that was not recorded on the 1899 Plat. Subsurface artifacts were not recovered and the severely eroded shoreline indicates that little potential exists for such intact deposits. Therefore 14JF122 is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF123

14JF123 is located within the northern portion of the project area about 1.5 miles southeast of Valley Falls, Kansas (Figure 3). The site is situated on an upland ridge overlooking Rock Creek and consists of the destroyed foundation of a Euroamerican farmstead. The site area was covered with dense grass with poor surface visibility. A concrete sidewalk, gateway, and limestone well are present at the site although artifacts were not recovered (Figure 30).

The site is associated with the J. Kerr farmstead recorded at this location on the 1899 Jefferson County Plat. The land was sold to S. H. Knowlton by 1916 and structures were still present. A dozen buildings were located in the site vicinity on the 1958 U.S. Army Corps of Engineers base map. They were purchased from Robert C. Simpson by the government and destroyed during lake development. One shovel test was placed in the site area and encountered redeposited bricks, limestone and mortar to a depth of 30 cm below surface. No intact artifacts were present and the site has been completely destroyed. It covers an area of at least 400 sq m.

14JF123 consists of a destroyed Euroamerican farmstead occupied from at least 1899 through 1958. Intact deposits were not encountered at the site, and therefore, it appears unlikely that the site contains archaeological deposits that would significantly add to the local history of the project area. 14JF123 is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF314

14JF314 is located on an upland side slope along the western shore of Perry Lake within the Delaware Area of Perry State Park (Figure 3). The site was recorded by Witty (1964) in 1963 as a light scatter of prehistoric lithic debris on a high terrace above the Delaware River.

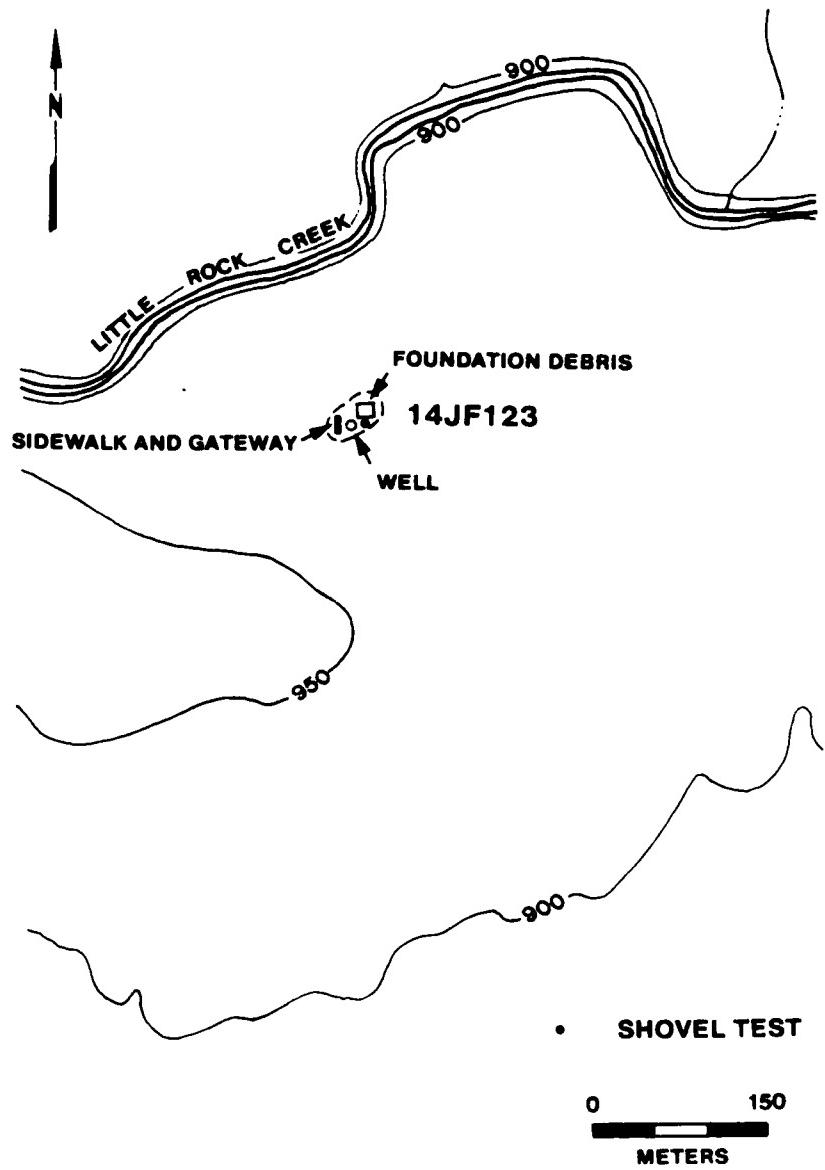


Figure 30. Location of 14JF123.

At that time, the site was in a cultivated field and the cultural affiliation of the site could not be determined.

The 1985 investigations at the site consisted of an intensive pedestrian survey, surface collection and the excavation of one shovel test. The site consisted of a light lithic scatter along the denuded shoreline within an area of approximately 1000 sq m (Figure 31). Sparse weeds covered the upper shoreline and visibility was very good. A 100 percent sample of exposed artifacts was retained for analysis.

The shovel test was placed at about 900 ft above msl and was culturally sterile. The subsoil of the Vinland complex soil is exposed at the surface indicating that there is little potential for intact deposits at 14JF314.

A total of 11 prehistoric artifacts were recovered from the surface of 14JF314. These include one edge-modified flake, four flakes, one chip and five pieces of shatter. All were derived from locally available tan or gray cherts, none of which appear to have been heated.

14JF314 consists of a light scatter of prehistoric lithic debris along the severely eroded shoreline of Perry Lake. The cultural affiliation of the site is unknown and little can be said regarding the prehistoric activities conducted at the site or the settlement type represented. The low density of lithic debris suggests that 14JF314 was occupied as a temporary, special purpose extractive camp where limited tool manufacture or maintenance was performed. The absence of pottery may indicate a pre-ceramic occupation. 14JF314 has little potential for intact cultural deposits and is not considered eligible for the National Register. Therefore, no further archaeological work or management is recommended.

14JF414

14JF414 is located on a upland ridge overlooking the Delaware River about 1 km north of Valley Falls, Kansas (Figure 3). The site was recorded by Milton Reichart in the fall of 1971 as a lithic scatter of unknown cultural affiliation covering nearly 5 ac. A mano, four point fragments, burned limestone and flaking debris were recovered from the surface of a cultivated field. Reichart returned to 14JF414 in the spring of 1972 and prepared a detailed sketch map of the site indicating the locations of a number of artifacts including two projectile points, one drill, one chipped stone celt, one stemmed scraper, one grooved axe, one grooved celt, a chopper, three manos, a metate and two hammerstones. One of the projectile points is listed as a Langtry variety, while the other is referred to as a "long" projectile. The latter specimen was apparently later identified by Reichart as a Graham Cave point (Witty 1982).

Most of these artifacts were exposed on the northern portion of the site, where Reichart noted the presence of several concentrations of buried limestone. A soil probe indicated the presence of an intact cultural horizon at about 35 cm below surface or just above the sterile

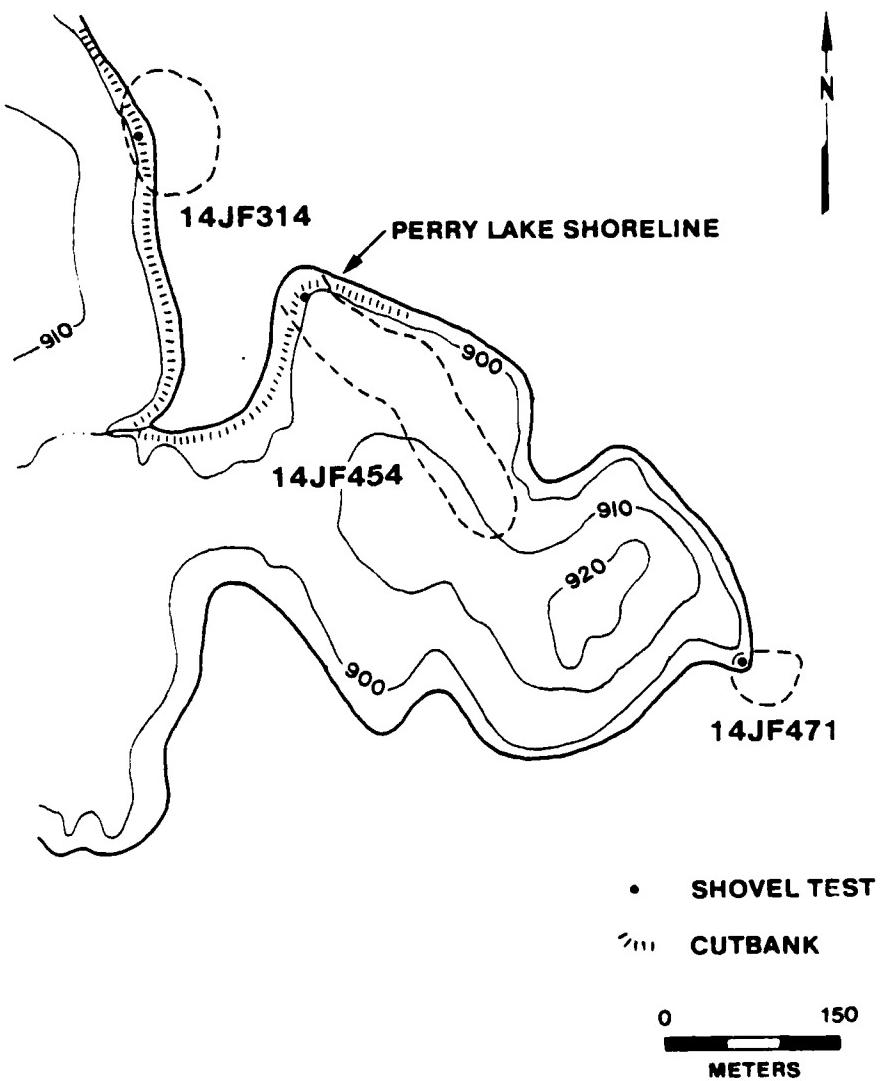


Figure 31. Location of 14JF314, 14JF454 and 14JF471.

subsoil. Reichart revisited the site in both 1980 and 1981 and submitted updated reports to the Kansas State Historical Society. He recovered a heat treated bifacial blank in 1981 and suggested that the burned limestone concentrations mentioned above may have been used for the heat treatment of chipped stone tools. Overall, the artifacts recovered by Reichart indicate an Archaic cultural affiliation for 14JF414 (Witty 1982).

Reichart also indicated the presence of a farmstead at the southern edge of the site. No structures are located at this location on either the 1899 or 1916 Jefferson County Plats when the land was owned by W. T. Kemper. Structures are also not present at the site on the 1958 U.S. Army Corps of Engineers base map. These maps indicate that the farmstead dates after 1916 and was destroyed prior to 1958.

The 1985 investigations at 14JF414 included an intensive pedestrian survey, artifact collection and the excavation of three shovel tests and 20 soil probes. At the time of the survey, the site was planted in low milo and surface visibility was excellent (Figure 32). A moderate to dense scatter of prehistoric lithic debris was encountered throughout the 5 ac field with the most concentrated areas occurring in the northern and southeastern portions of the site. A moderate scatter of historic artifacts was also exposed on the surface at the southwestern edge of the site.

14JF414 slopes downward from the central crest of the ridge and it appears that the increased density of surficial debris at the perimeter of the site is partially a result of cultivation and erosion. Three concentric agricultural terraces were constructed around 14JF414 in the 1930s resulting in partial destruction of the northern, eastern and southern margins of the site.

Given the large size of the site and high density of cultural material exposed on the surface, a two part sampling strategy was devised. The first part included systematic coverage of the site at 2 m survey intervals to locate and collect all diagnostic artifacts and tools. The second part of the strategy consisted of a 100 percent collection of cultural material exposed within a 1 X 10 m transect placed near the northern edge of the site. This transect cross-cut one of the burned limestone concentrations discussed above (Figure 32).

Three shovel tests were excavated 50 m apart along a north to south transect within the northern half of the site (Figure 33). These tests revealed that the extreme northern edge of the site has been completely deflated by plowing and erosion and that no intact deposits remain. However, 50 m to the south, a hearth feature was encountered in situ at 25 cm below surface and 10 cm below the plowzone. The hearth consisted of the same burned limestone cobbles that had been exposed on the surface surrounded by a matrix of charcoal and burned earth. A soil probe was used to determine that the hearth extends at least 2 m east but less than 2 m north, south and west of the shovel test. Cultural material was not encountered within Shovel Test 3 but the A horizon of the Pawnee clay loam soil was partially intact.



Figure 32. General views sites 14JF414 and 14JF415: view to the south of 14JF414 in the area of the intensive surface collection (upper); view to the west of 14JF415 at the terrace edge.

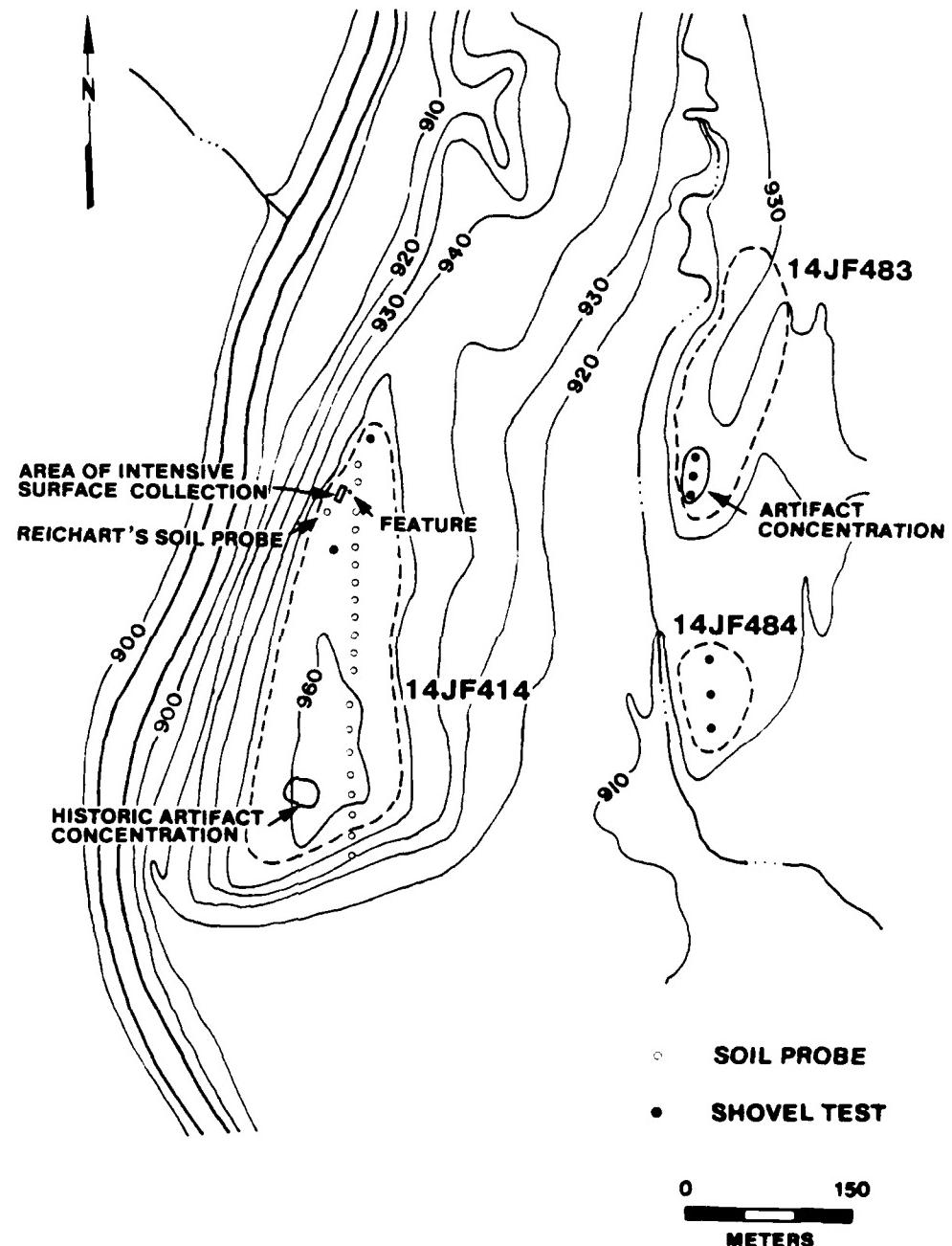


Figure 33. Location of 14JF414, 14JF483 and 14JF484.

The site was further tested for subsurface deposits with an Oakfield soil probe. The site was probed along the center of the ridge top at 20 m intervals from north to south. A layer of dark soil containing charcoal flecks and burned earth was encountered in a number of the probes within the southern two-thirds of the site, indicating that the intact deposit first recorded by Reichart in 1972 is fairly extensive. For the most part, this layer was 5 to 15 cm thick and occurred directly above the sterile reddish brown subsoil.

A total of 202 artifacts were recovered from the surface of 14JF414 including 181 prehistoric and 21 historic items. The majority of the prehistoric artifacts (145) were recovered from the 1 X 10 m transect at the northwestern edge of the site, while most of the historic artifacts were collected from the southern portion. Prehistoric artifacts recovered include three projectile points, one drill, one perforator, two preforms, seven blanks, ten biface fragments, one flake scraper, five edge-modified flakes, two cores, six flakes, two chips, two hammerstones, 135 pieces of unworked stone, one piece of hematite, one piece of limonite, one fish scale and one piece of bone. Historic debris includes seven glass bottle fragments, 12 ceramic sherds and two metal artifacts.

The three projectile points were recovered from the general surface of the site and consist of small to medium-sized, triangular, corner-notched or stemmed dart points. One of the specimens exhibits an extensively reworked distal tip and may have been used as a drill. It is missing one shoulder, as well as the base, and was made from heat treated chert. The intact shoulder indicates the point was corner-notched and had prominent barbs (Figure 34a). The second point is a small corner-notched specimen missing one lobe of the base and exhibiting a reworked tip (Figure 34b). It measures 33 mm in length, 22 mm in maximum width and is 5 mm thick. The stem width is 12 mm, the stem length is 6 mm and the notch depth is 3 mm. This point was made from a light gray lustrous chert and is lenticular in cross-section. The third specimen is a stemmed point with rather prominent barbs at the shoulders (Figure 34c). It has a broken tip and is also missing one lobe of the base. It measures 21 mm in maximum width and is 6 mm thick. Stem width is 15 mm while notch depth is 5 mm. The point is lenticular in cross-section and was manufactured from a gray fossiliferous chert.

The latter two points closely resemble specimens recovered from Horizons IV-1 and III-2 at the Coffey site located to the northwest in the Tuttle Creek Reservoir (Schmits 1981: Figures 22h and 23e-f). They have been securely dated at the Coffey site between 5140 and 5055 years B.P. (Schmits 1981:31), indicating that a late Archaic cultural component is represented at 14JF414.

The eight bifacial blanks and preforms are tools in various stages of manufacture recovered from the general surface of the site. They range from crudely flaked large blanks with thick cross-sections and irregular primary flaking to thin, lenticular, well flaked bifaces suitable for further reduction into projectile points or knives. One of the blanks is unusual in that it was made from diorite. The remainder of the blanks and preforms are made of gray or tan chert.

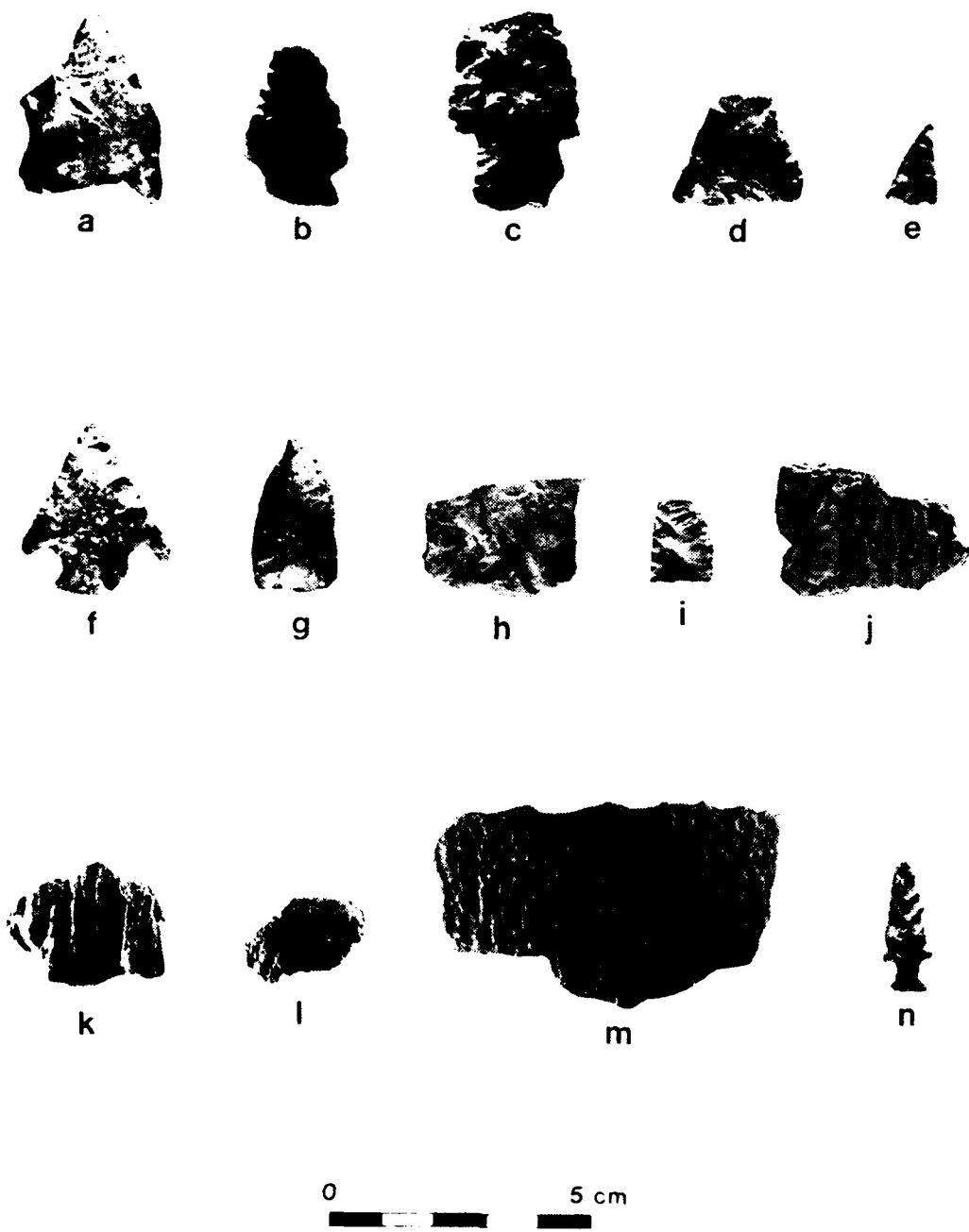


Figure 34. Artifacts recovered from sites 14.JF414, 14.JF417, 14.JF418, 14.JF423 and 14.JF450: a-c, projectile points from 14.JF414; d., drill from 14.JF414; e, biface fragment from 14.JF414; f-h, projectile points from 14.JF417; i, projectile point from 14.JF418; j-k, daub from 14.JF423; l-m, rim and body sherds from 14.JF450; n, projectile point from 14.JF450.

The bifacial drill and bifacial perforator were also recovered from the general surface. The drill is a proximal fragment of an expanding base variety that may have been hafted (Figure 34d). The perforator is a small heat treated biface fragment (perhaps the base of a stemmed point) retouched to form an acute tip suitable for engraving or piercing. One of the ten biface fragments is a small thin biface that appears to be a section of a small triangular arrow point suggesting that a Plains Village occupation may also be present at the site (Figure 34e). The scraper is a large flake with steep marginal retouch along most of its perimeter, while the edge-modified flakes include five small to medium-sized flakes with edge wear resulting from retouch and use. Two of the latter specimens were recovered within the 1 X 10 m transect. Both hammerstones are quartzite cobbles with battering along their perimeters.

All of the unworked stone recovered from the site was recovered from the 1 X 10 m transect. This includes 116 pieces of burned limestone, eight pieces of unburned chert, one piece of sandstone and ten pieces of quartzite with a combined weight of 6.2 kg. This material occurred as part of a concentration representing a former hearth or roasting pit and ranged in size from less than 2 cm to over 10 cm in maximum dimension.

The seven historic bottle glass fragments recovered from the southern portion of the site include one applied lip section manufactured in a two piece mold between 1850 and 1910; one lavender and two clear bottle fragments dating after 1880; one mason jar lip dating between 1910 and 1920; and two aqua fragments that could not be dated. Stoneware from 14JF414 includes the base of a molded vessel with a brown slip glaze and the lip of a molded bowl with a black slip, both of which date after 1880. The other stoneware fragment could not be dated.

Three whiteware rims were recovered including one section of red and blue sponge-spatter ware dating between 1850 and 1910, one lip section of an undecorated bowl dating between 1830 and 1910 and a rim from a red and white slip glazed ware that could not be dated. The four whiteware body sherds include two sections with a blue transfer printed design dating between 1830 and 1910, one piece of blue sponge-spatter ware dating between 1850 and 1910 and a fragment of a saucer or plate dating between 1830 and 1910. The porcelain includes a segment of a doorknob dating between 1875 and 1910 and an unidentifiable fragment. Metal artifacts consist of a cut nail dating between 1830 and 1890 and a piece of scrap iron that could not be dated.

14JF414 is located in the northern portion of the project area on an upland ridge overlooking the Delaware River. The site consists of a moderate to dense scatter of prehistoric and historic debris covering an area of approximately 5 ac. The site was initially recorded in 1971 by Milton Reichart and is one of the only previously recognized Archaic sites identified in the project area (Witty 1982:8).

The 1985 investigation of 14JF414 included intensive survey, a surface collection and the excavation of shovel tests and soil probes. Intact subplowzone cultural deposits are present in the northwestern and

southern portions of the site. A partially intact hearth feature is present in the northwestern portion of the site adjacent to a large concentration of burned limestone.

The prehistoric tool assemblage recovered from 14JF414 suggests that a wide range of activities were conducted at the site including hunting, butchering, hideworking, cooking, chopping, woodworking, tool manufacture and seed and pigment processing. The large site size, combined with the range and density of artifacts recovered, indicate that 14JF414 was intensively occupied. It probably represents a Late Archaic base camp occupied over a long period of time. The diagnostic artifacts recovered by Reichart include one point identified as a Graham Cave variety. Although this point was assigned to the late Archaic period by Witty (1982), it is an Early Archaic type in Missouri (Chapman 1975). Examination of this point suggests that it is not a classic Graham Cave type but more closely resembles points recovered from the Coffey site dating to about 4000 years B.P. (Schmits 1981: Figure 22).

Two of the three points recovered during the present investigations also closely resemble points from the Coffey site assemblage dating to the late Archaic period. One of the points (Figure 34c) is virtually identical to specimens recovered from the culturally related Jones site (14MH145), which along with the De Shazer Creek site (14MH39) and the Cow Killer site (14OS347), have been assigned to the Late Archaic Black Vermillion phase of northeastern Kansas (Schmits 1980, 1981). Diagnostic artifacts of the Black Vermillion phase, in addition to triangular projectile points with notches, include Munkers Creek knives, notched chipped stone celts and gouges. Radiocarbon dates for the phase range between 5500 and 4000 years B.P. (Schmits 1981:195).

The projectile points, as well as the chipped-stone celt recovered by Reichart, suggest that 14JF414 may be culturally related to the Black Vermillion phase of northeastern Kansas. However, in the absence of the absolute dates needed to more firmly establish the site's temporal placement, it would be premature to assign the Late Archaic component at 14JF414 to a local phase.

A second prehistoric component may be represented at the site by the small fragment of a triangular biface which appears to be the base of an arrow point. This arrow point indicates that a Plains Village occupation may also be represented at 14JF414. The absence of ceramics and other diagnostic artifacts of the Plains Village period suggests that this occupation, if present, was not very intensive.

The historic artifacts recovered from the site date between 1830 and 1920 with most clustering between 1880 and 1910. According to the 1899 and 1916 Jefferson County Plats, structures were not located in this vicinity when the land was owned by W. T. Kemper. Apparently, the Plat maps are in error and a Euroamerican farmstead was present at that time.

In summary, 14JF414 is a large, multiple component site located on an upland ridge. The site has been subjected to cultivation, erosion and the construction of three agricultural terraces. Although partially

destroyed, the site still contains several areas of intact subplowzone archaeological deposits. Diagnostic artifacts recovered from the surface indicate that the earliest component dates to the Late Archaic period and may be culturally related to the Black Vermillion phase of northeastern Kansas. The site may also contain a later Plains Village component that, if present, has been largely destroyed by cultivation. The historic component is located primarily in the southern portion of the site and surrounds an area of grass and trees which are not presently being cultivated. This area is the location of the former historic structure and may contain intact historic as well as prehistoric deposits.

Since 14JF414 contains intact subsurface deposits and represents one of the few identified Late Archaic components in the project area, it is recommended that further testing be conducted to determine its National Register eligibility.

14JF415

14JF415 is located at the terminus of an upland ridge adjacent to Walnut Creek about 500 m north of its confluence with the Delaware River (Figure 3). The site was recorded by Milton Reichart in 1971 as a possible Plains Woodland habitation site consisting of a light scatter of lithic debris and one cordmarked pot sherd. The site was in a cultivated field that contained the remains of a destroyed farmstead.

At the time of the 1985 investigations, 14JF415 was in a freshly disked field and surface visibility was excellent (Figure 32). A light scatter of historic and prehistoric debris occurred within an area of 4800 sq m. Six shovel tests were excavated at 10 m intervals along a north to south transect placed down the center of the site (Figure 14). No subsurface cultural material was encountered and the A horizon of the Sheltz-Pawnee complex soil had been completely eroded.

The majority of the historic artifacts were restricted to the western half of the site, while prehistoric materials were largely restricted to the southeastern portion. A large burr oak, at least 5 ft in diameter, is situated at the eastern edge of the site and is adjacent to a possible cellar depression.

The land on which the site is located was owned by C. Manager in 1899 and A. Senn in 1916. According to the Jefferson County Plats, no buildings were present during this period. Structures were also not present at the site on the 1958 U.S. Army Corps of Engineers topographic base map. According to these maps, the farmstead should date between 1916 and 1958.

A total of 37 prehistoric and 16 historic artifacts were recovered from the surface of 14JF415. Prehistoric artifacts include one cordmarked grit tempered sherd, one biface fragment, three chunks, seven flakes, three chips, 12 pieces of shatter and ten pieces of unworked stone. The historic artifacts include seven pieces of bottle glass, five ceramic sherds, three pieces of metal and one brick fragment.

The prehistoric body sherd is small and poorly preserved. It is grit tempered, exhibits parallel cordmarking on the exterior surface and is 8 mm thick. Overall, it is similiar to ceramics identified as Grasshopper Falls phase ware in the project area (Reynolds 1979; Witty 1982). None of the lithic artifacts recovered from the site are age-diagnostic. The biface fragment is the distal section of a small serrated arrow point. It is broken just above the haft element and is probably the blade section of a Scallorn or Sequoia point. The 11 pieces of unworked stone include one small piece of burned limestone, one piece of sandstone, one piece of diorite and eight pieces of quartzite with a combined weight of 1.6 kg.

The historic bottle glass includes three clear bottle lip fragments, a Clairol bottle and three body fragments. Two of the lip fragments date after 1880 and one is machine-made dating after 1910. The Clairol bottle dates after 1920. Only one of the ceramic artifacts is datable and consists of a whiteware body sherd dating between 1830 and 1910. Ceramics which could not be dated include the handle of a gray-bodied salt glazed jug, the base of a stoneware container and two stoneware body trgments. Likewise, the metal artifacts and brick fragment could not be dated.

14JF415 lacks intact subplowzone cultural deposits and only a limited number of prehistoric and historic artifacts were recovered from the surface. Based on the recovery of a single cordmarked grit tempered sherd, the site appears to be culturally affiliated with the Grasshopper Falls phase of eastern Kansas (Reynolds 1979). 14JF415 was apparently not intensively occupied and appears to represent a special purpose extractive camp.

The historic material recovered from 14JF415 is not particularly diagnostic. Only one artifact definitely predates 1910 indicating that the site was occupied in the early part of the twentieth century. The historic artifacts largely confirm the data obtained from the Jefferson County Plat maps which indicate the farmstead was occupied after 1916, and the U.S. Army Corps of Engineers base map, which indicates it was destroyed prior to 1958.

14JF415 is not considered eligible for the National Register. The site contains the destroyed remains of a relatively recent Euroamerican farmstead and the prehistoric remains of a Plains Woodland Grasshopper Falls phase encampment. Both components are much better represented at a number of sites in the project area and little significant additional information pertinent to the local history or prehistory remains at the site. Therefore, no further archaeological work or management is recommended.

14JF417

14JF417 is located on low terrace adjacent to Peter Creek in the northern portion of the project area just west of Valley Falls, Kansas (Figure 3). The site was recorded by Milton Reichart in 1971 as a light lithic scatter of Woodland cultural affiliation based on the recovery of

several small projectile points. Material collected by Reichart included seven projectile points, three bifaces, one drill, one scraper, two cores, one hammerstone and one piece of ground stone. Chert debitage, burned limestone and quartzite cobbles were also observed on the surface of 14.IF417, reported to cover an area of 2 ac.

The site was relocated in 1985 in a freshly disked milo field with excellent surface visibility. It consisted of a light to moderate lithic scatter covering about 8800 sq m across the top of the terrace. Most of the artifacts were recovered at the eastern edge of the site along the terrace edge and it appeared that cultural material was in the process of being exposed by cultivation and erosion. The southern edge of the site is covered with grass and may contain intact deposits. A 100 percent collection of recognized tools and a representative sample of debitage and unworked stone were retained for analysis. Five shovel tests were excavated at 20 m intervals along a east to west transect at the top of the terrace (Figure 13). Although artifacts were not recovered within the shovel tests, they revealed that the A horizon of the Reading silt loam soil is partially intact, further confirming that intact cultural deposits may be present.

A total of 33 prehistoric artifacts were recovered from the surface of 14.IF417. These include 3 projectile points, four biface fragments, one flake scraper, five edge-modified flakes, three cores, one mano, one nutting stone and eight pieces of unworked stone. One of the projectile points is a nearly complete corner-notched specimen missing only one lobe of the base (Figure 34f). It is triangular in plan form, exhibits deep, broad corner-notches, pronounced bars at the shoulders and an expanding straight base. It is plane-convex in cross-section and measures 34 mm in length, 28 mm in maximum width and 6 mm in thickness. Stem length is 9 mm, stem width is 13 mm, notch depth is 5 mm and notch width is 5 mm. It was made from a gray fossiliferous chert and resembles an unnamed type which occurs in small frequencies at several Late Archaic sites in eastern Kansas (L. J. Schmits: personal communication).

The second point is similar to the Nebo Hill point type (Figure 34g). It is a short lanceolate specimen with a thick plane-convex cross-section, reworked tip and lightly ground haft element. It was made from a gray fossiliferous chert and measures 32 mm in length, 17 mm in width and is 7 mm thick. The length of the haft element is 15 mm. Nebo Hill points have been radiocarbon dated at several sites in western Missouri between 4500 and 3000 years B.P. and fall within the Late Archaic period (Schmits et al. 1982). Similar points have also been recovered in low frequencies at several sites in eastern Kansas dating between 5500 and 4000 years B.P. (Schmits 1981:110). The third point recovered from 14.IF417 is the base of a straight stemmed variety which is too incomplete for typological comparison (Figure 34f).

The biface fragments include one proximal fragment made of a dark gray quartzite, two medial sections and one distal fragment which exhibits a notch along one margin of the tool. The flake scraper was made from a small bifacial trimming flake which has been steeply

retouched along most of its perimeter. The edge-modified tools are five cortical chert flakes with retouch along one or more edges. The mano is a cobble-sized piece of fine-grained quartzite that has been extensively ground on one surface. The nutting stone is a quartzite cobble with a small "pit" or indentation on one surface. Unworked stone includes one piece of burned limestone, one stream patinated chert cobble and six pieces of quartzite. Two of the latter are extensively battered and may have been used as hammerstones.

14JF417 is located on a low terrace adjacent to Peter Creek just west of Valley Falls, Kansas. Although initially recorded as a Woodland habitation site, the projectile points recovered from the surface during the present investigation document that a Late Archaic occupation is also represented. The site consists of a light to moderate scatter of lithic debris including projectile points, biface fragments, scrapers, a drill, edge-modified flakes, cores, debitage, manos, a pitted stone, a hammerstone and unworked stone. This assemblage suggests that the site was occupied as a base camp where hunting, butchering, tool manufacture, cooking and plant food processing were conducted. The absence of ceramics suggests that the Woodland component tentatively identified by Reichart on the bases of small projectile points was a temporary occupation or perhaps may not exist. In contrast it appears that the late Archaic occupation of the site represents an upland base camp.

The A horizon of the Reading silt loam soil is partially intact indicating that intact cultural deposits may be present at 14JF417. The concentration of artifacts at the eastern edge of the site, along the severely eroded edge of terrace, suggests that the site is in the process of being plowed out and that intact cultural material may be present further up the slope. Therefore additional testing is recommended to determine the sites National Register status.

14JF418

14JF418 is located about 400 m to the northwest of 14JF417 on an upland ridge (Figure 3). It was recorded in 1971 by Milton Reichart as an extremely light lithic scatter extending from south to north across the ridge top covering an area of about 4000 sq m. Only one bitace was recovered from the surface of the site although chert flakes, quartzite and burned limestone were observed. The cultural affiliation of the site was not determined.

The site was relocated by ESA in 1985 and consisted of a very light lithic scatter covering a much larger area than previously reported. 14JF418 extends southward as an intermittent scatter of chert flakes and quartzite to the edge of a milo field adjacent to old Highway 16. This light scatter of lithic debris covers an area of almost 10 ac and suggests that a series of short-term encampments are represented, rather than a single large habitation. A 100 percent sample of exposed cultural material was retained for analysis. Five shovel tests were placed within the northern portion of the site at 20 m intervals across the ridge top (Figure 13). No subsurface deposits were encountered and the A horizon of the Shelby-Pawnee complex soil is largely deflated,

indicating there is little potential for intact deposits at the site.

A total of 17 artifacts were recovered from the surface of 14JF418 including one projectile point, one bifacial blank, one biface fragment, two edge-modified chunks, three cores and 7 pieces of unworked stone. The projectile point is a small triangular unnotched specimen indicating a Plains Village occupation (Figure 34i). It was made from a small flake of non-local white chert, and measures 12 mm in maximum width and 3 mm in thickness. The point is asymmetric in outline, has a broken tip and was reworked along one lateral margin. The blank is a small stream patinated chert cobble that has been flaked on both surfaces, while the edge-modified chunks are sections of small stream cobbles that have been retouched along one edge. The cores include three stream patinated chert cobbles with a limited number of small flake scars. Unworked stone from the site consists of one large cobble of diorite, four pieces of quartzite and two pieces of chert with a combined weight of 2.5 kg.

14JF418 was relocated during the present survey and was found to be larger than initially reported, extending about 700 m further south along the ridge top. One projectile point was recovered from the northern portion of the site indicating a Plains Village cultural affiliation. The few artifacts recovered from the surface suggest that the site was intermittantly occupied as an upland hunting camp where limited tool manufacture and maintenance activities were performed. No sub-surface artifacts were encountered within the shovel tests and the site has little potential for intact deposits. Therefore 14JF418 it is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF423

14JF423 is located at the northeastern edge of the Perry Lake multipurpose pool on a low terrace of Bowies Branch (Figure 3). The site was recorded by Milton Reichart in 1973 as a dense scatter of daub intermixed with a few flakes and sherds and covering an area of about 70 sq m. One rim sherd, 35 body sherds, one projectile point, a few flakes and several pieces of grass impressed daub were recovered. Reichart excavated a small test unit measuring about 30 by 40 by 30 cm in the center of the daub concentration where two sherds and several large pieces of daub were encountered, documenting that a prehistoric structure was partially intact. Prior to backfilling, several historic artifacts were placed in the unit to facilitate its relocation. On the FSHS survey form, Tom Witty indicated that a Central Plains phase prehistoric component, rather than a Pomona occupation, is present at the site.

The site was visited by personnel from Iroquois Research Institute in May of 1977 at which time it was covered with corn. A surface collection, which included ceramics, was recovered from the site. 14JF423 was relocated by ESA in 1985 and was in a corn field with generally poor visibility. A light scatter of prehistoric lithic debris and a moderate scatter of historic artifacts were encountered within an

area of about 120 sq m (Figure 35). The historic debris was generally restricted to the eastern portion of the site.

Structures are indicated just north of the site on both the 1899 and 1916 Jefferson County Plats when the land was owned by William Boles and Alb Boles, respectively. Two structures were still present at this location in 1958 when the property was purchased from Wallace E. McClenney for the development of Perry Lake, after which they were removed. They occur outside of the survey area (Figure 35).

A 100 percent collection of the prehistoric artifacts and a representative sample of the historic debris were retained for analysis. One shovel test was excavated at the center of the site and produced substantial evidence of an intact deposit. Several pieces of daub and the edge of a pit or wall trench were encountered between 20 and 40 cm below surface or at 10 to 20 cm below the plowzone. The dark brown matrix inside of the pit contained charcoal and continued below 40 cm to an unknown depth. The A horizon of the Kennebec silt loam soil was intact below the plowzone.

A total of 16 prehistoric and two historic artifacts were recovered from 14JF423. Prehistoric material recovered from the surface consists of one biface fragment, one edge-modified flake, one flake and three pieces of burred, grass impressed daub. Ten pieces of daub were also recovered within the shovel test between 15 and 35 cm below surface (Figure 34j-k). Historic material includes the base of a glass bottle with a machine-made cut-off scar dating after 1910 and the base of an undecorated whiteware bowl or cup dating between 1830 and 1910.

14JF423 was recorded in 1973 as a scatter of daub, ceramics and lithic debris. The recovery of cordmarked grit tempered ceramics, including one thickened rim sherd, and a triangular basal and side-notched Mississippian period arrow point indicate a Central Plains phase cultural affiliation possibly related to the Smoky Hill aspect (Wedel 1959) or Nebraska phase (Blakeslee and Caldwell 1979). The presence of a partially intact structural feature within the upper 40 cm was documented by both Reichart and the present investigations. The structure was covered with grass and pole impressed daub and is in the process of being destroyed by cultivation.

The historic material recovered on the surface of the site is apparently related to the Boles farmstead located immediately to the north which was destroyed during the development of Perry Lake. No intact historic deposits were encountered within the area of prehistoric debris but intact structural remains may be present further to the north. 14JF423 contains intact prehistoric cultural materials and is recommended for further testing to determine the extent of the deposits and its Natural Register status.

14JF450

14JF450 is located on a high terrace along the eastern shore of Perry Lake about 1.2 km north of the Longview Public Use Area

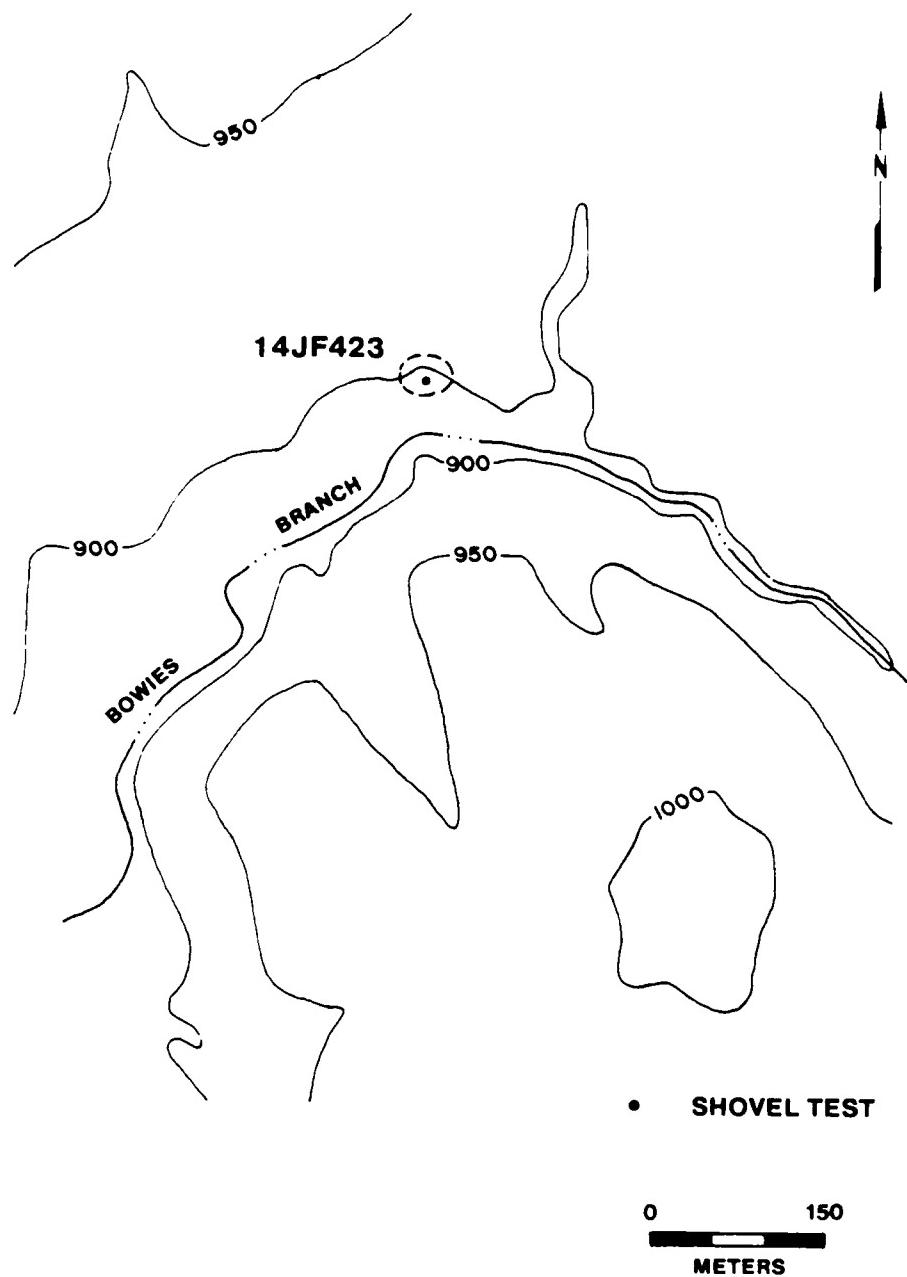


Figure 35. Location of 14JF423.

(Figure 3). The site was recorded by Milton Reichart in August of 1974. At that time, the site consisted of a light to moderate scatter of ceramics and lithic debris eroding from the shoreline of Perry Lake between the elevations of 880 and 890 ft above msl. A dense concentration of material was noted at the southern edge of the site where the recovery of several large pot sherds suggested the presence of intact subplowzone deposits. The grit tempered sherds indicated a Plains Woodland Grasshopper Falls phase cultural affiliation for the site.

The 1985 investigations at 14JF450 included an intensive pedestrian survey, artifact collection and the excavation of five shovel tests. The survey revealed that the site has severely eroded along the shoreline and is covered with dense weeds at about 900 ft above msl (Figure 36). The area of cultural debris extended north to south along the shoreline and covered approximately 2000 sq m (Figure 37). The concentration of artifacts noted by Reichart was encountered at the southern edge of the site. An intensive surface collection within a 2 by 2 m area of the surface was conducted within this area and a representative sample of artifacts was collected from the remainder of the site. One shovel test was excavated adjacent to the shoreline at the southwestern edge of the site. About 10 cm of the A horizon of the Gymer silt loam soil remained indicating that intact subplowzone deposits are possibly eroding from the shoreline at 14JF450. The other four shovel tests were placed at 20 m intervals along the upper shoreline where the upper 30 cm of the A horizon remains intact. No artifacts were recovered within these tests.

A total of 43 artifacts were recovered from 14JF450 including one rim sherd, nine body sherds, one projectile point, one biface blank, two biface fragments, one unifacial scraper, five edge-modified flakes, three edge-modified chunks, nine flakes, five chips, one piece of ground stone and five pieces of unworked stone. Except for the blank, two of the edge-modified chunks, the mano fragment and three pieces of unworked stone recovered from the general surface, all of the artifacts were located within the 2 by 2 m concentration at the southwestern edge of the site.

The rim sherd is a small section of a smoothed, undecorated grit tempered vessel with a slightly flared, flattened lip (Figure 34l). It has a lip thickness of 5 mm but is too small to allow an estimate of the vessel size or shape. The nine body sherds are grit tempered, cordmarked on the exterior and smoothed on the interior (Figure 34m). They range in thickness from 9 to 14 mm with an average of 10 mm. Overall, the sherds from 14JF450 are very similar to ceramics referred to as Grasshopper Falls ware (Reynolds 1979).

The projectile point recovered from the surface of 14JF450 is similar to the Scallorn or Sequoia varieties (Figure 34n). It is a small triangular arrow point with a thick biconvex cross section, serrated lateral blade margins and deep broad corner notches. It measures 25 mm in length, 10 mm in width at the shoulders, 7 mm in width at the base and is 5 mm thick. Notch width is 5 mm, stem width is 4 mm and notch depth is 3 mm. The point appears to have been heated and was



Figure 36. General views of sites 14.JF450 and 14.JF465: view to the northwest of 14.JF450 (upper); partial cross-section of a hearth feature at 14.JF465 (lower).

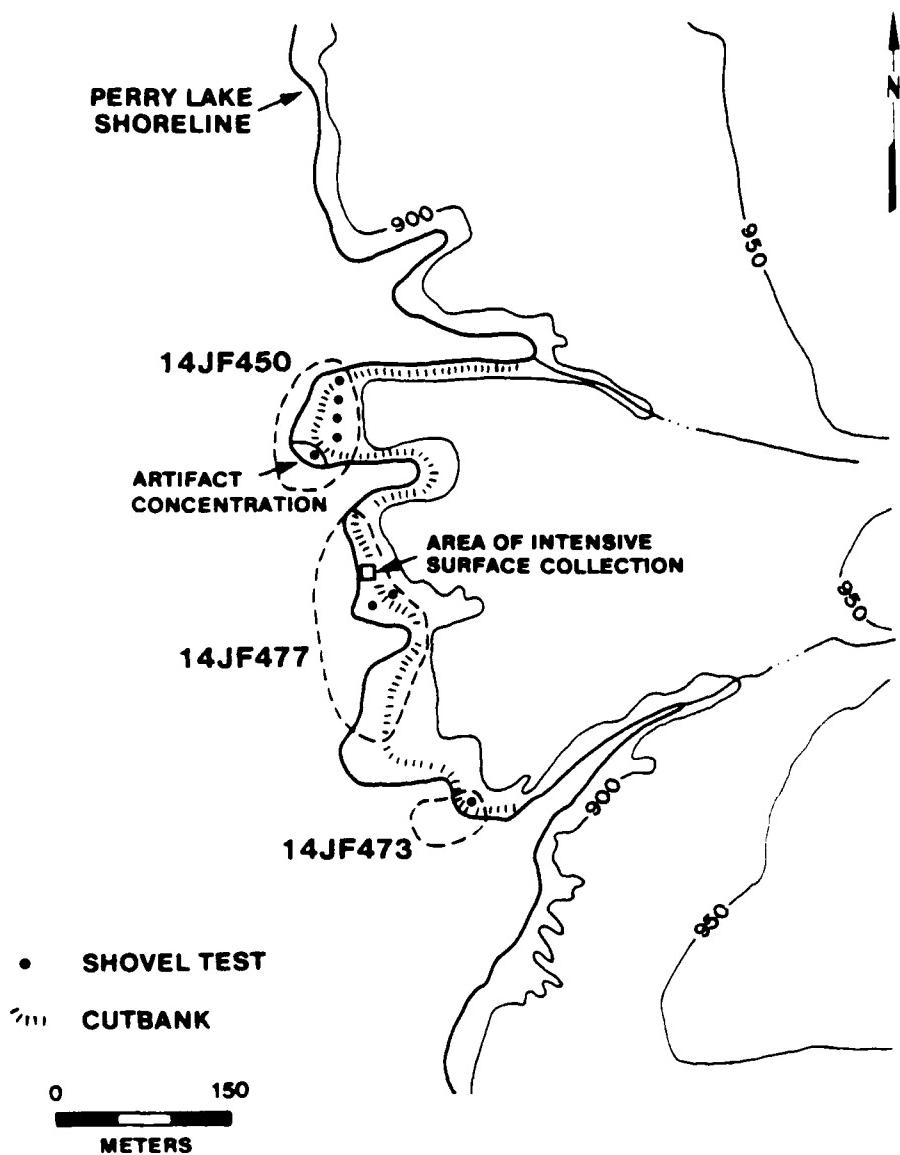


Figure 37. Location of 14JF450, 14JF473 and 14JF477.

made from a white or cream-colored chert. The biface blank is an incompletely flaked piece of brown fossiliferous chert with a thick cross-section. The biface fragments include one small section of a thin, well flaked biface that is probably a section of a point or knife and a small section of an incompletely flaked river cobble. The unifacial scraper was made from a gray fossiliferous chert that is completely flaked on the dorsal surface and has step fracture wear along most its perimeter.

The edge-modified tools consist of five chert flakes and three chunks with retouch resulting from scraping or cutting activities. They were made from local light brown or gray cherts and two appear to have been heated.

The ground stone tool is a small fragment of a Sioux quartzite cobble that has been smoothed on one surface and that was apparently used as a mano. The unworked stone from the site includes one piece of burnt limestone, one piece of sandstone and three pieces of quartzite with a combined weight of 291 g.

14.F450 was initially recorded as a probable Plains Woodland Grasshopper Falls phase habitation based on the recovery of grit tempered sherds. The cordmarked grit tempered ceramics and small triangular arrow point recovered during the present investigations confirm a Grasshopper Falls phase occupation for the site.

The artifacts recovered from the surface suggest the site was occupied as a base camp or possibly a small hamlet where ceramic, chipped stone and ground stone tool manufacture took place. Other activities inferred from the artifact assemblage include hunting, butchering, hideworking, seed or vegetal food processing and cooking. Most of the artifacts were recovered from a small area at the southwestern edge of the site. This concentration may represent an area of specialized refuse disposal or perhaps a deflated storage feature or trash filled pit. Although the site is badly eroded along the water's edge, intact cultural deposits may be present at the upper, less severely eroded portion of the shoreline.

14.F450 appears to be a single component Plains Woodland Grasshopper Falls phase site. Since it has the potential for intact deposits that may contain information important to the local prehistory, it is recommended for additional testing to determine its National Register eligibility.

14.F451

14.F451 is located on an upland side slope along the eastern shore of Perry Lake about 1 km north of 14.F450 (Figure 3). The site was recorded by Milton Reichart in August of 1974 as a small scatter of prehistoric artifacts along the shoreline. Cultural material included grit tempered cordmarked ceramics, a biface, a few chert flakes, burned quartzite and limestone. The ceramics indicated the site was affiliated with the Plains Woodland period. Reichart revisited the site in the

fall of 1976 and reported that it was completely destroyed.

The area in which 14JF451 had been reported was relocated in 1985 during the survey conducted by ESA. At that time the lake level was at 894.0 ft above msl and no prehistoric artifacts were observed. However, a destroyed limestone foundation representing an historic farmstead was encountered at the edge of the shore (Figure 38). Since this bulldozed foundation was located within the area of 14JF451, it was recorded as an additional component.

The foundation remains consisted of an essentially linear pile of cut limestone that appeared to have been pushed down the slope by a bulldozer. A few historic artifacts were encountered within an area of about 30 sq m surrounding the foundation remains. The artifacts consist of one whiteware rim sherd dating between 1850 and 1910, a wire coil dating after 1890 and an iron stove lid that could not be dated.

A structure is shown at this location on both the 1899 and 1916 Jefferson County flat maps at which time the land was owned by C. S. Cook. Structures were still present at the site on the 1951 U.S.G.S. Zawkie Quadrangle topographic map, as well as on the 1958 U.S. Army Corps of Engineers base map, at which time the land was purchased by the government from Leila F. Cook. The Corps base map places the structure outside of the present survey area between the elevations of 900 and 910 ft above msl, or about 40 m east of the foundation remains encountered during the survey. Apparently, this building was bulldozed down the slope during lake development and the historic component has been completely destroyed.

One shovel test was excavated adjacent to the foundation remains but no subsurface deposits were encountered. Given that both the prehistoric and historic components at 14JF451 have been completely destroyed, the site has little potential to significantly add to the prehistory or history of the project area. Therefore, 14JF451 is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF452

14JF452 is located on an upland side slope on the eastern shore of Perry Lake about 200 m north of 14JF451 (Figure 3). The site was recorded by Miller Reichart in August of 1974 as a scatter of prehistoric artifacts including ceramics, chipped stone tools, lithic manufacturing debris, ground stone and unworked stone. The ceramics indicated a Plains Woodland cultural affiliation.

The site was relocated in 1985 and was covered by dense brush and weeds above the eroded shoreline with fair to poor visibility. A moderate scatter of prehistoric debris and an historic limestone foundation were encountered in the site area of approximately 1800 sq m. A 100 percent sample of artifacts exposed on the surface was retained for analysis. The prehistoric material was restricted to the northern portion of the site, while the historic foundation was located at the

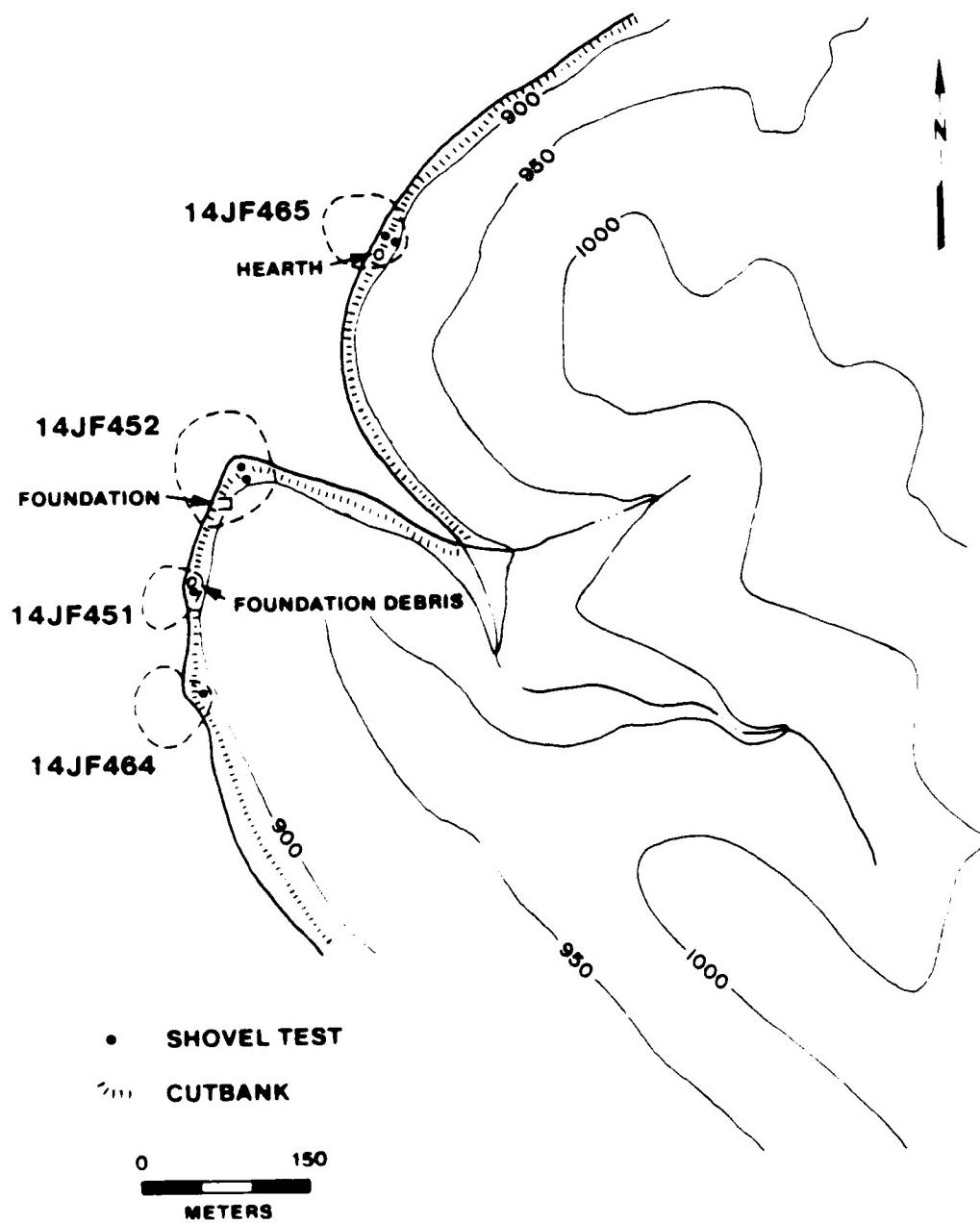


Figure 3. Location of 14JF465, 14JF452, 14JF451 and 14JF464.

southern edge (Figure 38). One shovel test was excavated on the upper portion of the shoreline and although subsurface cultural deposits were not encountered, the A horizon of the Vinland soil was partially intact. A second shovel test was excavated adjacent to the shoreline where the soil was completely deflated.

The historic foundation consists of three parallel dry masonry limestone walls spaced 2 m apart which served as the base of a shed or outbuilding. A large metal hinge was recovered from the western side of the building indicating the location of the entrance. The cut limestone blocks were reddened as if the structure had burned. The overall dimensions of the structure would have been 10 m east to west and 4 m north to south.

No structures are located in the immediate vicinity on either the 1896 or 1916 Jefferson County Plats. Structures are also absent on the 1958 U.S. Army Corps of Engineers base map for the project area, although a road was located adjacent to the site. The structure may have been an outbuilding associated with the Cook farmstead, recorded as a component of site 14F451, located 200 m to the south.

A total of 64 artifacts were recovered from the surface of 14F452 consisting of 60 prehistoric and four historic specimens. The prehistoric artifacts include one biface fragment, two unifacial scrapers, one core, two chunks, 24 flakes, 21 chips, eight pieces of shatter and one piece of unworked stone. The biface fragment is a thin, well flaked fragment of a medium to large-sized projectile point or knife. The unifacial scrapers were made from small thick flakes that have been steeply retouched along the perimeter and across the dorsal surface. The core is a stream patinated chert cobble with several flakes removed.

The historic artifacts include a stoneware body fragment from a gray-bodied, molded vessel with a black slip glaze on the interior and a salt glaze above a brown slip glaze on the exterior. It was manufactured after 1880. Two undecorated whiteware fragments date between 1830 and 1910 and one piece of red sponge-spatter ware dates between 1850 and 1900.

The prehistoric artifacts recovered from the site indicate that a wide variety of activities were conducted. The site appears to represent a Plains Woodland base camp where ceramic, chipped stone and ground stone tool manufacture, as well as hunting, butchering, hideworking and cooking, were performed. Although the shoreline is severely eroded, the shovel test documented the presence of a partially intact upper soil horizon indicating that subsurface artifacts may be present at the site. Therefore, it is recommended that test excavations be conducted to determine if the prehistoric component at 14F452 is eligible for the National Register. The historic component appears to be a burned outbuilding associated with the Cook farmstead recorded at 14F451. It is not considered eligible for the National Register.

14JF454

14JF454 is located in the western portion of Perry Lake within the Delaware area of Perry State Park (Figure 3). The site is situated on an upland side slope along the shoreline and extends to the southeast up the slope of the ridge. The site was recorded by Milton Reichart in October of 1974 as a light lithic scatter, which included one expanding stemmed corner-notched point, one mano, one biface and a few chert flakes. The absence of ceramics and the length of the stem on the projectile point suggested an Archaic affiliation for the site.

The area was revisited during the 1985 survey. Chert flakes were encountered within a 300 sq m area of the shoreline to the southwest of the site boundary indicated by Reichart. The site boundary was expanded to include this light scatter of lithic debris so that the site, as now drawn, covers an area of about 10,000 sq m (Figure 31). Given the dense weeds and brush above the eroded shoreline, it could not be determined if the scatter is continuous within this area. A 100 percent sample of cultural material was retained for analysis.

A shovel test placed near the 900ft level indicated that the dark brown A horizon of the Shelby-Pawnee complex soil was largely intact to a depth of 20 cm below surface. Although subsurface artifacts were not recovered, the intact soil horizon indicates that they are in the process of being deflated at the site.

A total of nine pieces of chipped stone debitage were recovered from the surface of 14JF454. These include three flakes, three chips and three pieces of shatter consisting of unheated brown, tan or gray cherts of local origin. The cultural affiliation of the site could not be determined from the artifacts recovered. The upper soil horizon is largely intact along the upper shoreline and subsurface cultural deposits are probably present. Therefore additional testing is recommended to determine if 14JF454 is eligible for nomination to the National Register.

14JF462

14JF462 is located on the eastern shore of Perry Lake on an upland side slope near the northern edge of the Longview Public Use Area (Figure 3). The site was recorded by Milton Reichart in September of 1975 and consisted of a very light scatter of prehistoric artifacts including ceramics, a mano and a few chert flakes. The sherds indicated a Plains Woodland cultural affiliation.

The site was relocated in August of 1985 and consisted of a light scatter of lithic debris covering an area of about 40 sq m along the shoreline. A 100 percent sample of surface artifacts was retained for analysis and a shovel test was excavated at about 900 ft above msl (Figure 4). Subsurface artifacts were not encountered and the Vinland complex soil is largely deflated, indicating the site has little potential for intact subsurface deposits.

A total of 11 artifacts were recovered from the eroded shoreline at 14FF462. They include one bifacial blank, two small biface fragments, one edge-modified flake, one core, one flake, three chips and two pieces of shatter. The blank is a relatively thin, incompletely flaked piece of olive-brown chert broken at the distal end. One of the biface fragments is a piece of light gray chert that may be the base of a drill or perforator. The other is a section of a heat treated biface. The edge-modified tool is a thick triangular flake with retouch along the lateral margins. The core is a small cobble of light brown fossiliferous chert that exhibits rather extensive flake removal but little platform preparation.

The site appears to have been occupied as a small temporary camp where a limited range of activities were performed. No diagnostic artifacts or subsurface deposits were encountered and the site has been destroyed by shoreline erosion. Therefore, 14FF462 has little potential to significantly contribute to the prehistory of the project area and is not considered eligible for the National Register. No further archaeological work or management is recommended.

14FF464

14FF464 is located on a high terrace on the eastern edge of Perry Lake about 10' m south of 14FF451. The site was recorded by Milton Lechert in November of 1976 when the lake was drawn down to 588.4 ft above msl and consisted of a small scatter of prehistoric debris including ceramics, a projectile point, a hafted scraper, a chert celt and chert flakes. The ceramics suggested a Plains woodland/crasshopper Falls phase cultural affiliation.

The shoreline immediately to the east of the previously recorded boundary of 14FF464 was surveyed in 1981 by USA. Three prehistoric artifacts were recovered within a .25 sq m area along the shoreline, indicating an eastward extension of the site (Figure 48). The artifacts include a small biface fragment, probably from an arrow point, and two small bifacial trimming flakes. The remainder of the site was under the multipurpose pool of Perry Lake and is estimated to cover an area of about 1700 sq m.

Given the small size of the artifact scatter encountered along the shoreline only one shovel test was excavated at about 50' ft above msl. Subsurface artifacts were not encountered but the A horizon of the finer silt loam soil was largely intact. The intact soil indicates that subsurface deposits are in the process of being deflated by shoreline erosion at the site and further test excavations are recommended to determine if 14FF464 is eligible for the National Register.

14FF465

14FF465 is located on an upland side slope along the eastern shore of Perry Lake about 30' m north of 14FF464 (Figure 4). The site was recorded by Milton Lechert in November of 1976 as a scatter of

prehistoric debris along the water's edge. At that time, the multipurpose pool was at 888.4 ft above msl and most of the artifacts were recovered from below the water line. Material recovered by Reichart included grit tempered cordmarked ceramics, five projectile points, two greenstone celts, a sharpening block, a hammerstone and a few chert flakes. One of the points was identified as a Scallorn type and one of the sherds was noted to have exterior bosses. The ceramics and projectile points indicated a Plains Woodland Grasshopper Falls phase occupation.

The site was relocated in 1977 by Iroquois Research Institute and was reported to be severely eroded. The area of the shoreline immediately southeast of the recorded boundary of 14.IF465 was surveyed in 1985 by FSA. A hearth was exposed on the shoreline in this area (Figure 36) as were a few chert artifacts. The boundary was expanded to include these artifacts, so that the site is now estimated to cover about 1800 sq m (Figure 38). A 100 percent sample of chipped stone artifacts was recovered for analysis, as were a few of the burned limestone hearthstones. A shovel test was excavated at about 900 ft above msl and although intact artifacts were not recovered, the A horizon of the Vinland complex soil was largely intact, indicating that subsurface deposits may be present. A second shovel test was placed at the shoreline where the soils have been completely deflated.

The artifact assemblage recovered from 14.IF465 during the 1985 investigations includes 17 specimens consisting of one bifacial blank, one edge-modified chunk, two chunks, three pieces of shatter and ten hearthstones. A charcoal sample was also recovered from the hearth feature. None of the specimens are culturally or temporally diagnostic. The blank is a piece of mottled gray chert that has been completely flaked on both surfaces. It exhibits a moderate amount of step fracture along one edge and may have been used as a scraper. The edge-modified chunk is a piece of tan chert with steep retouch along one edge. The unmodified chunks and shatter are pieces of reddish brown chert that may have been heated. The ten hearthstones were recovered from the feature and consist of burned limestone with a combined weight of 6.5 kg.

The 1985 investigations at the site occurred when the multipurpose pool was at 893.6 ft above msl, at which time the area recorded by Reichart was inundated. However, a hearth feature measuring over 1 m east to west and 66 cm north to south was encountered along the shoreline. Although deflated, a small portion of the hearth appeared to remain intact, and a large charcoal sample was recovered. Other than a small portion of the feature, intact cultural deposits were not encountered at the site. The A horizon of the Vinland complex soil is intact at the upper portion of the shoreline and it appears that the site is in the process of being deflated. It is recommended that additional test excavations be conducted at 14.IF465 to determine if the site is eligible for the National Register. The test excavation should be conducted when the lake level is drawn down to about 888 ft above msl to allow the relationship between the areas of the site recorded by Reichart in 1976 and by FSA in 1985 to be investigated.

14.JF471

14.JF471 is located on the terminus of an upland ridge along the western shore of Perry Lake at the southeastern edge of the Delaware Area of Perry State park (Figure 3). The site was recorded by Milton Reichart in March of 1977 as a small scatter of prehistoric debris including one grit tempered body sherd, a quartzite mano and a few pieces of burnt limestone. The site was located between 885 and 890 ft above msl and is partially below the level of the multipurpose pool. The grit tempered sherd suggested a Plains Woodland cultural affiliation. Reichart noted that the site was probably destroyed.

The site area was relocated during the 1985 survey and one chert flake was recovered along the badly eroded shoreline at about 894 ft above msl (Figure 31). A shovel test excavated at this location produced no evidence of intact cultural deposits and documented that the Shelby-Fawcett complex soil was completely eroded. 14.JF471 has been destroyed by shoreline erosion and is not considered eligible for the National Register. No further archaeological work or management is recommended.

14.JF472

14.JF472 is located on an upland side slope on the eastern shoreline at Perry Lake within the Longview Public Use Area (Figure 3). The site was recorded by Milton Reichart in March of 1977 as a small scatter of prehistoric cultural debris along the eroded shoreline between the elevations of 885 and 890 ft above msl. Artifacts recovered included seven grit tempered and cordmarked ceramic sherds, one projectile point, two bifaces, two drills, a core and two chert flakes. The ceramics indicated a Plains Woodland Grasshopper Falls phase cultural affiliation.

The site area was relocated during the 1985 survey and only one prehistoric artifact, a chert core, was recovered along the shoreline. However, a largely destroyed limestone foundation was encountered at about 895 ft above msl surrounded by a few historic artifacts. The historic material was recorded as an additional component of 14.JF472, since it is located immediately adjacent to the northeastern edge of the site as originally defined by Reichart (Figure 4).

Historic structures are indicated at this location on both the 1860 and 1910 Jefferson County Plat maps. In 1869, the land was owned by Mary Gunney and a structure was present. By 1916, C. H. Brey owned the property and two wells in addition to the structure were present. Thirteen buildings are indicated at the site location on the 1958 U.S. Army Corps of Engineers base map. They were destroyed during lake level print at which time the property was acquired from Ina L. Brey by the federal government.

The limestone foundation of one of these buildings was encountered along the shoreline. It measured 5 m north to south and at least 6 m east to west. The western edge of the foundation had been removed when

the building was bulldozed. A shovel test was excavated adjacent to the structure but no subsurface artifacts were recovered and the Vinland complex soil was completely deflated.

The artifact assemblage from 14.JF472 includes one prehistoric and six historic artifacts. The prehistoric artifact is a fragment of a light brown chert core. The historic artifacts include one piece of stoneware, one piece of ceramic building tile, three nails and one piece of scrap iron. The stoneware body sherd has a buff-colored body with a black slip glaze that probably dates after 1880. The red ceramic building tile and scrap iron could not be dated, while the wire nails date after 1890. Overall, the artifacts appear to date to the mid-twentieth century and are probably associated with an outbuilding rather than a residence.

14.JF472 was first recorded in 1977 as a scatter of prehistoric artifacts associated with the locally defined Plains Woodland Grasshopper Falls phase (Reynolds 1979). Artifacts recovered from the site at that time indicate that it was occupied as a base or residential camp where ceramic and chipped stone tools were manufactured and where hunting, butchering, woodworking and other maintenance tasks were performed. During the 1985 shoreline survey, a largely destroyed limestone foundation was discovered at the northeastern edge of the site. The structure appears to be an outbuilding related to a farmstead occupied from at least 1849 through the late 1950s when it was destroyed during lake development.

Intact subsurface deposits were not encountered at the site and it has been severely impacted by shoreline erosion. 14.JF472 has little potential to add significant data to the local prehistory or history of the project area and is not considered eligible for the National Register. No further archaeological work or management is recommended.

14.JF473

14.JF473 is situated on a high terrace along the eastern shore of Perry Lake about 500 m south of 14.JF450 (Figure 3). The site was initially recorded by Milton Reichart in March of 1977 as a light scatter of prehistoric material along the shoreline within the area of a barn recorded on the 1951 U.S.G.S. Ozaukee Quadrangle topographic map. At that time, the multipurpose pool was at an elevation of 887 ft above msl. Artifacts recovered included 11 grit tempered sherds and five point fragments, one of which was identified as a Scallorn point. The ceramics indicate a Plains Woodland Grasshopper Falls phase occupation for the site.

The site area was relocated during the 1985 survey at which time the multipurpose pool was at 893.6 ft above msl. The eastern portion of 14.JF473 was encountered along the shoreline but most of the site was under Perry lake (Figure 37). A light scatter of prehistoric and historic debris was encountered within a 300 sq m area of the badly eroded shoreline. A shovel test was excavated in the upper portion of the shoreline but failed to produce intact cultural material. The Gymer

silt loam soil has been completely deflated by shoreline erosion.

Historic structures are indicated at the site on both the 1899 and 1916 Jefferson County Plats, at which time the land was owned by W. C. Fowler and Isaac Fowler respectively. A large barn and well were located between 880 and 890 ft above msl in this area are present on the 1958 U.S. Army Corps of Engineers base map. The land was acquired from Orrin W. Shepherd by the government and the buildings destroyed during lake development.

The artifact assemblage from 14JF473 consists of nine prehistoric and two historic artifacts. The prehistoric material includes one bifacial preform, one scraper, two flakes, two chips, two pieces of shatter and one piece of unworked stone.

The preform is a small, well-flaked, bifacial tool suitable for further reduction into a point or knife. It appears to have broken during manufacture and was discarded prior to intensive use. The scraper was fashioned from a small piece of stream patinated chert retouched along most of its perimeter. It may have also served as a knife along one edge. The debitage consists of local light gray and brown cherts, only one of which appears to have been heated.

The historic artifacts include one piece of stoneware and one piece of whiteware. The stoneware is a fragment of a molded vessel with a dark brown slip glaze dating after 1880. The whiteware body sherd dates between 1850 and 1910.

The ceramics and projectile points recovered from the eroded surface of 14JF473 in 1977 indicate that a Plains Woodland Grasshopper Falls phase occupation was represented. The artifact assemblage suggests the site was occupied as a base camp where ceramic and chipped stone tool manufacture, hunting, butchering, hideworking and other maintenance tasks were conducted.

The historic occupation of the site began prior to 1899 and continued through the late 1950s. The majority of the historic artifacts are related to the Fowler farmstead occupied from the late nineteenth through the early twentieth centuries.

The site lacks intact subsurface deposits and both the prehistoric and historic components have been largely destroyed. Therefore, 14JF473 does not have the potential to significantly add to the local history or prehistory of the project area and is not considered eligible for the National Register. No further archaeological work or management of the site is recommended.

14JF477

14JF477 is located along the eastern shoreline of Perry Lake on the same high terrace as 14JF473 but about 100 m to the north (Figure 3). The site was recorded by Milton Reichart in January of 1978 as a small scatter of prehistoric artifacts along the eroded shoreline between 895

and 900 ft above msl. The artifacts recovered by Reichart included three grit tempered cordmarked ceramic sherds, one projectile point fragment, two bifaces and several chert flakes indicating a Plains Woodland cultural affiliation possibly associated with the Grasshopper Falls phase.

The site was relocated during the 1985 survey and was found to be larger than initially recorded. A light to moderately dense scatter of prehistoric ceramic and lithic artifacts was encountered along a 300 m stretch of the eroded shoreline, covering an area of approximately 9000 sq m (Figure 37). A 100 percent sample of artifacts was collected from a 5 by 5 m area at the northern edge of the site. With the exception of a few pieces of debitage, only ceramics and recognizable tools were collected from the remainder of the site.

Two shovel tests were excavated 10 m apart along the shoreline. The first was placed adjacent to the shore and the second up higher the bank at about 900 ft above msl. Both shovel tests were culturally sterile, although the A horizon of the Gymer silt loam soil was intact at the higher elevation. Below approximately 897 ft above msl, the site has been largely destroyed by wave action but intact deposits appear to be in the process of being deflated further up the shoreline.

A total of 82 artifacts were recovered from the surface of 14JF477, 47 of which were recovered from the 5 by 5 m concentration at the northern edge of the site and 35 from remainder of the site area. They consist of two rim sherds, nine body sherds, two projectile points, five biface fragments, three unifacial scrapers, two flake scrapers, ten edge-modified flakes, three cores, 41 pieces of debitage, three pieces of ground stone and one piece of unworked stone.

Both rim sherds are small and were recovered from the general surface of the site along the eroded shore. They are grit tempered with slightly outflaring rims and flattened lips (Figure 39a-b). Both rims are eroded and lack decoration although one appears to have been cordmarked on the exterior surface. Rim thickness is 6 mm and lip thickness is 5 mm. The orifice diameter of the vessels represented was about 25 cm. The nine grit tempered body sherds were also recovered along the shoreline and range in maximum dimension from 1.4 to 4.7 cm. Interior surfaces are smoothed and seven of the nine specimens are cordmarked on their exterior surfaces (Figure 39c-e). Thickness ranges from 7 to 10 mm within the sample.

The two projectile points are both small triangular specimens that probably served as arrow points (Figure 39f-g). One is a side-notched specimen with a convex base recovered from the surface concentration in the northern portion of the site. It measures 25 mm in length, 13 mm in width at the shoulders, 12 mm in width at the base and is 4 mm thick. The depth is 2.5 mm, notch width is 5 mm and the stem width is 8 mm. The point, which is missing its tip, was made from a flake of local tanert that does not appear to have been heated. The second is missing both its and tip base and appears to be corner-notched similar to the Scallorn variety. It measures 15 mm in width

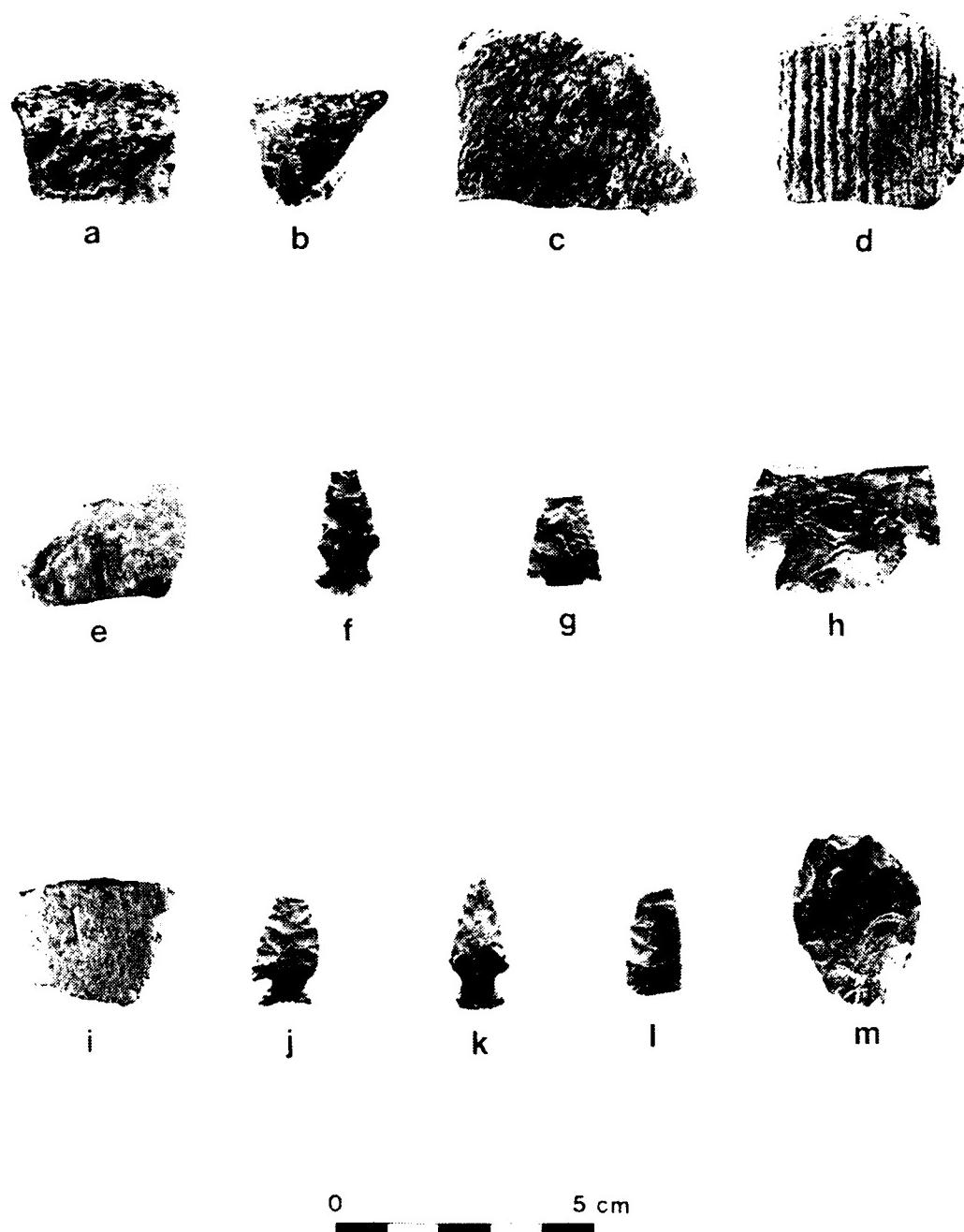


Figure 19. Artifacts recovered from sites 14JF477, 14JF483 and 14JF484:
 a-b, rim sherds from 14JF477; c-e, body sherds from 14JF477;
 f-g, projectile points from 14JF477; h, projectile point from
 14JF483; i, body sherd from 14JF484; j-l, projectile points
 from 14JF484; m, scraper from 14JF484.

at the shoulders and is 4 mm thick. The stem width is 7 mm and it was made from a gray heat treated chert of local origin.

The five biface fragments from the site are sections of small to medium-sized tools including one tip and four base fragments made from local tan and gray cherts, two of which were heated. The four unifacial and two flake scrapers were made from small to medium-sized flakes of local tan, brown or gray chert, none of which were heat treated. All six were recovered from the general surface of the site. The ten edge-modified flakes were recovered from the surface concentration and consist of small to medium-sized flakes of local tan and gray cherts modified along one or more edges.

The three cores include one small tabular specimen of brown chert with multiple striking platforms and rather extensive flake removal recovered from the general surface and two small fragments from the area of the intensive surface collection. Debitage recovered from the site consists of 20 flakes, 13 chips and eight pieces of shatter.

The three ground stone tools from 14JF477 were recovered from the surface concentration and include one large cobble of diorite with a large flat surface that apparently served as a large mano. The other two specimens are smaller cobbles of quartzite that are battered along the perimeter and served as hammerstones. The unworked stone consists of one small piece of limestone.

14JF477 which was recorded in 1978 and assigned to the Grasshopper Falls phase of the Plains Woodland period, was revisited during the 1985 survey and was found to be more extensive than initially recorded. 14JF477 is in the process of being eroded out of the terrace, and intact deposits are probably present at the upper portion of the shoreline.

Artifacts recovered from the surface indicate that 14JF477 was intensively occupied and that a wide variety of activities were performed. Ceramics, chipped stone tools and ground stone tools were manufactured and used at the site. The chipped stone assemblage indicates that hunting, butchering, hideworking, and light-duty cutting and scraping were conducted, while the ground stone suggests that vegetal foods were also processed at the site. Cooking is indicated by the ceramics, while the concentration of artifacts at the northern edge of the site suggests the presence of a refuse pit or trash disposal area. The grit tempered ceramics and small points recovered from 14JF477 during the present investigations confirm a Grasshopper Falls phase cultural affiliation for the site. The rim sherds indicate that ceramic vessels were medium-sized jars with slightly recurved rims and flat lips, while the small side and corner-notched projectiles were probably arrow armaments. 14JF477 is recommended for further testing to determine its National Register eligibility.

14JF483

14JF483 is located on the crest of an upland ridge in the northern portion of the project area about 1 km north of Valley Falls, Kansas

(Figure 3). The site was recorded by Milton Reichart in July of 1979 as a small prehistoric lithic scatter of unknown cultural affiliation. Only one possible chert core and a few chert flakes were recovered from the surface of a milo field within an area of about 1200 sq m. The site was relocated during the 1985 investigations and was covered with low milo with very good surface visibility. A very sparse scatter of artifacts was observed throughout the cultivated field within an area of approximately 17,500 sq m (4.3 ac).

An intra-site concentration of cultural debris, covering an area of about 1500 sq m, and encountered at the southwestern edge of the site, included a few historic artifacts as well as prehistoric lithic debris. The area is severely eroded and has been partially destroyed by construction of an agricultural terrace that cross-cuts the southern edge of the site. This concentration is the portion of the site originally recorded by Reichart.

Although a few historic artifacts were recovered from the site, no evidence of a structure was encountered. Buildings are not recorded at this location on either the 1899 or 1916 Jefferson County Plats, when the land was owned by W. T. Kemper and the Union Pacific Railroad ran adjacent to the northeastern edge of the site. Structures were also absent at this location in the 1958 according to the U.S. Army Corps of Engineers topographic base map by which time the railroad tracks had been removed.

A 100 percent sample of prehistoric artifacts other than unworked stone, and a representative sample of historic debris, was retained for analysis. Three shovel tests were excavated at 20 m intervals along a north to south transect within the area of highest artifact density (Figure 33). All three were culturally sterile and the A horizon of the Shelby-Pawnee complex soil has been completely eroded. The underlying B horizon is exposed at the surface and extended to the base of the shovel cuts or to 30 cm below surface. The cultural deposit at 14JF483 has been completely plowed out and is restricted to the surface.

A total of 161 artifacts were recovered from 14JF483 including 106 from the general surface and 55 from the concentration in the southwestern portion of the site. The prehistoric assemblage consists entirely of lithic debris, while historic material includes bottle glass and ceramics. One projectile point, one bifacial blank, one biface fragment, one unifacial scraper, four edge-modified chunks and 27 edge-modified flakes comprise the chipped stone tool inventory, while two hammerstones represent the ground stone tools. Lithic manufacturing debris consists of 9 cores, four chunks and 94 pieces of debitage. The prehistoric inventory is completed by 12 pieces of unworked stone.

The projectile point was recovered from the southwestern portion of the site and is a broad subtriangular, corner-notched dart with an expanding straight base and lenticular cross-section (Figure 39h). It has a transverse break, is missing one corner of the base and was made from a brown fossiliferous chert of local origin. The point measures 39 mm in width at the shoulders and is 8 mm thick. Stem width is 24 mm, notch depth is 7 mm and notch width is 5 mm. The point could date to

either the Plains Archaic or Plains Woodland periods, although the absence of ceramics suggests an Archaic affiliation.

The bifacial blank is a small thin biface of local gray chert which is completely flaked on both surfaces. The biface fragment is a proximal section of a larger biface that may have been a core and the unifacial scraper was fashioned from a cortical flake of brown chert that was steeply retouched along the transverse and lateral margins. The 31 edge-modified tools consist of four chunks and 27 flakes of local brown, gray or tan cherts with retouch along one or more edges. Nine cores and four chunks were recovered. Most of the cores are small and exhibit rather extensive flake removal.

Debitage includes 44 flakes, 28 chips and 22 pieces of shatter. Except for two pieces of non-local white chert, it consists of local raw materials. The two ground stone tools are hammerstones, one of which is a piece of battered quartzite and the other is a piece of battered chert that may have been used as a core. The unworked stone consists of three pieces of quartzite, one piece of gabbro or schist, three pieces of diorite and five pieces of burned limestone with a combined weight of 616 g.

The historic artifacts include two pieces of clear bottle glass dating after 1880, two pieces of stoneware that could not be dated and one piece of undecorated whiteware dating between 1850 and 1910.

When relocated in 1985, 14JF483 was found to be larger than initially reported in 1979 and to contain historic as well as prehistoric artifacts. The historic material is not associated with structural remains and buildings are not recorded in the site vicinity. The historic artifacts date to the late nineteenth or early twentieth centuries. It is possible they are associated with the construction or operation of the former railroad which ran along the northeastern edge of the site.

The prehistoric artifacts consist entirely of lithic artifacts. The single projectile point recovered from the surface resembles corner-notched varieties found on both Plains Archaic and Plains Woodland sites in eastern Kansas. The absence of ceramics at the site suggests that the site may date to the Archaic period.

The artifacts recovered indicate that hunting, butchering, hide-working and chipped stone tool manufacture predominated at the site. Overall, the assemblage suggests the site was temporarily occupied as an upland hunting or extractive camp. The shovel tests excavated at the site revealed that the A horizon of the soil has been severely eroded by cultivation exposing the B horizon, at the surface. The site has little potential for intact subsurface deposits and has also been disturbed by agricultural terracing. Therefore, 14JF483 is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF484 is located 100 m south of 14JF483 on the lower portion of the same upland ridge (Figure 3). The site was recorded by Milton Reichart in June of 1979 as a small scatter of lithic debris covering an area of about 400 sq m including two projectile points, a core, chert flakes, one mano and historic glass and ceramics. The projectile points suggested a Plains Archaic cultural affiliation. The site was relocated in 1985 and was in a willo field with very good surface visibility. A light to moderate scatter of prehistoric and historic debris was encountered within an area of approximately 6300 sq m. Most of the prehistoric artifacts were located within a 1200 sq m area at the center of the site near the terminus of the low ridge with a very light scatter along the periphery. The majority of the historic debris was recovered from near the northern edge of the site.

Historic foundation remains were not present at the site and no structures are indicated at this location on the 1899 or 1916 Jefferson County Plats when the property was owned by W. T. Kemper. Buildings are also absent from the area on the 1958 U.S. Army Corp of Engineers topographic base map. If an historic structure was present at the site, it was apparently constructed and then destroyed between 1916 and 1958.

A 100 percent sample of prehistoric artifacts, other than unworked stone and a representative sample of historic artifacts were retained for analysis. Three shovel tests were excavated at 20 m intervals along a north to south transect (Figure 33). Shovel Tests 1 and 3 were sterile. However, an intact subplowzone cultural deposit was encountered between 15 and 25 cm below surface within Shovel Test 2, excavated near the center of the most concentrated area of surficial debris. Two small chert flakes were recovered within a dark matrix containing flecks of charcoal and burned earth.

A total of 211 artifacts were recovered from 14JF484. They include 201 prehistoric and eight historic artifacts from the surface, as well as two prehistoric artifacts located between 15 to 25 cm below surface within Shovel Test 2. The prehistoric artifacts consist of three ceramic body sherds, three projectile points, two biface blanks, three biface fragments, one unifacial scraper, one flake scraper, ten edge-modified chunks, 39 edge-modified flakes, eight cores, nine chunks, 111 pieces of debitage, three hammerstones and ten pieces of unworked stone. The ceramics are small grit tempered sherds ranging from 1.7 to 3.2 cm in maximum dimension and from 7 to 10 mm in thickness. One appears to have smoothed-over cordmarking on the exterior surface and a smoothed interior (Figure 39i). The other two are smoothed on both surfaces.

The three projectile points are small triangular specimens with lenticular cross-sections that probably served as arrow tips. One is corner-notched with an expanding stem and a concave base that is missing a shoulder and the tip (Figure 39j). It measures 23 mm in length, is 11 mm wide at the base and is 3 mm thick. Stem width is 6 mm, notch depth is 4 mm and notch width is 3 mm. It was made from a brown chert of local origin. The second point is side-notched with a slightly

convex base and serrated lateral blade margins (Figure 39k). It measures 18 mm in length, 13 mm in width at the shoulders, 10 mm in width at the base and is 5 mm thick. Stem width is 6 mm, notch depth is 3 mm and notch width is 5 mm. It was made from a lustrous olive-colored chert of local origin. The third point is missing both its base and the tip and is too incomplete for detailed description (Figure 39l). It was made from a local gray chert and exhibits slightly serrated lateral edges.

The two bifacial blanks are small incompletely flaked tools apparently rejected during manufacture. The three bifacial fragments include one medial and two lateral sections of small to medium-sized bifacial tools. One of the later may have been used as bifacial scraper. The unifacial scraper is a small flake of gray chert that is steeply retouched along the entire dorsal surface (Figure 39m), while the flake scraper is a slightly larger flake that is marginally retouched along most of its perimeter. The 49 edge-modified tools consist of ten chunks and 39 flakes with retouch along one or more edges. Most are made from local tan, brown or gray cherts, although two quartzite specimens are present.

Debitage from the site includes 54 flakes, 35 chips and 20 pieces of shatter. The three hammerstones consist of two pieces of quartzite and one cobble of chert with battered edges. Unworked stone includes four pieces of quartzite, two pieces of diorite, three pieces of burnt limestone and one piece of unburned limestone with a combined weight of 252 g.

The eight historic artifacts from 14JF484 include three clear bottle glass fragments, one piece of window glass, one plain and one decorated whiteware fragment, one piece of porcelain and one fragment of animal bone. The bottle fragments date after 1880, while the undecorated whiteware body sherd dates between 1850 and 1910. The decorated whiteware sherd is a section of a plate or saucer with a stippled design that probably dates after 1900. The window glass, porcelain and animal bone could not be dated.

14JF484 was first recorded in 1979 as a small scatter of prehistoric and historic debris. The projectile points recovered from the surface of the site were reported to indicate an Archaic cultural affiliation. 14JF484 was relocated in 1985 and was found to be more extensive than originally reported. The recovery of grit tempered smoothed-over cordmarked and plain surfaced ceramics, as well as small triangular corner and side-notched projectile points, indicate that the site is affiliated with the Plains Woodland Grasshopper Falls phase rather than the Archaic period. The site also contains historic artifacts dating to the late nineteenth and early twentieth centuries.

Prehistoric artifacts recovered from the surface of the site indicate that hunting, butchering, hideworking, and chipped-stone tool manufacture were predominant activities at the site, although ceramic manufacture, food preparation and cooking undoubtedly occurred as well. Overall, the site appears to have been occupied as a base or residential camp, although no evidence of prehistoric structures was encountered.

The historic artifacts include one piece of window glass, indicating the former presence of an historic dwelling, although foundation remains were not encountered within the site area. The Jefferson County Plats do not show a structure at this location in either 1899 or 1916. Structures were also absent in 1958 prior to the acquisition of the project area by the federal government. If a structure was present, it may have been constructed after 1916 and destroyed prior to 1958.

14JF484 is a multiple component site containing evidence of a Plains Woodland Grasshopper Falls phase and historic period occupations. The site contains a partially intact cultural deposit near the center of the ridge and additional testing is recommended to determine the extent of this deposit and to determine if 14JF484 is eligible for the National Register.

RESULTS OF THE NATIONAL REGISTER TESTING AT PERRY LAKE

14JF34

14JF34 is located along the eastern shoreline of Perry Lake within the Old Town Public Use Area, just south of Kansas Highway 92 (Figure 3). The site was initially recorded in 1965 during the survey conducted by Jack Schock for the University of Kansas. At that time, it was located on a terrace above the eastern bank of the Delaware River and covered over 2 ac. Based on the recovery of grit tempered sherds, Plains Woodland and possibly Plains Village cultural affiliations were suggested. The site was relocated by Milton Reichart in 1974 and was assigned site number 14JF446 for the historic material that was scattered throughout the area. 14JF34/446 was once again visited by Reichart during the 1979 shoreline survey conducted by the Kansas State Historical Society (Witty 1982). At that time, the western edge of the site had been severely eroded by wave action. Witty (1983) suggested that 14JF34 represents a Plains Woodland habitation site associated with the nearby Netty Busby site, which has been defined as a Grasshopper Falls phase special use occupation.

The 1985 investigations at 14JF34 included an intensive survey, site mapping, surface collection and test excavations. The intensive pedestrian survey revealed that the site consisted of a light to moderately heavy scatter of historic and prehistoric artifacts covering an area of approximately 2000 sq m. The site area was covered with dense bushes and weeds, and except along the badly eroded shoreline, surface visibility was generally poor (Figure 40). The majority of the prehistoric artifacts were recovered at the southern edge of the site, adjacent to the destroyed remains of several historic structures, while historic debris was scattered throughout the site area.

Two perpendicular transects of one by one m test units were excavated at 10 m intervals across the site (Figure 41). These eight units were hand excavated to a depth of between 40 and 80 cm below



Figure 14. A high-contrast black and white photograph of a steep, rocky hillside. The terrain is rugged and uneven. A small rectangular sign is mounted on a rock formation in the center-left. The sign contains the text "14JF34 TU-1" and "EAST PROFILE" above a downward-pointing arrow.

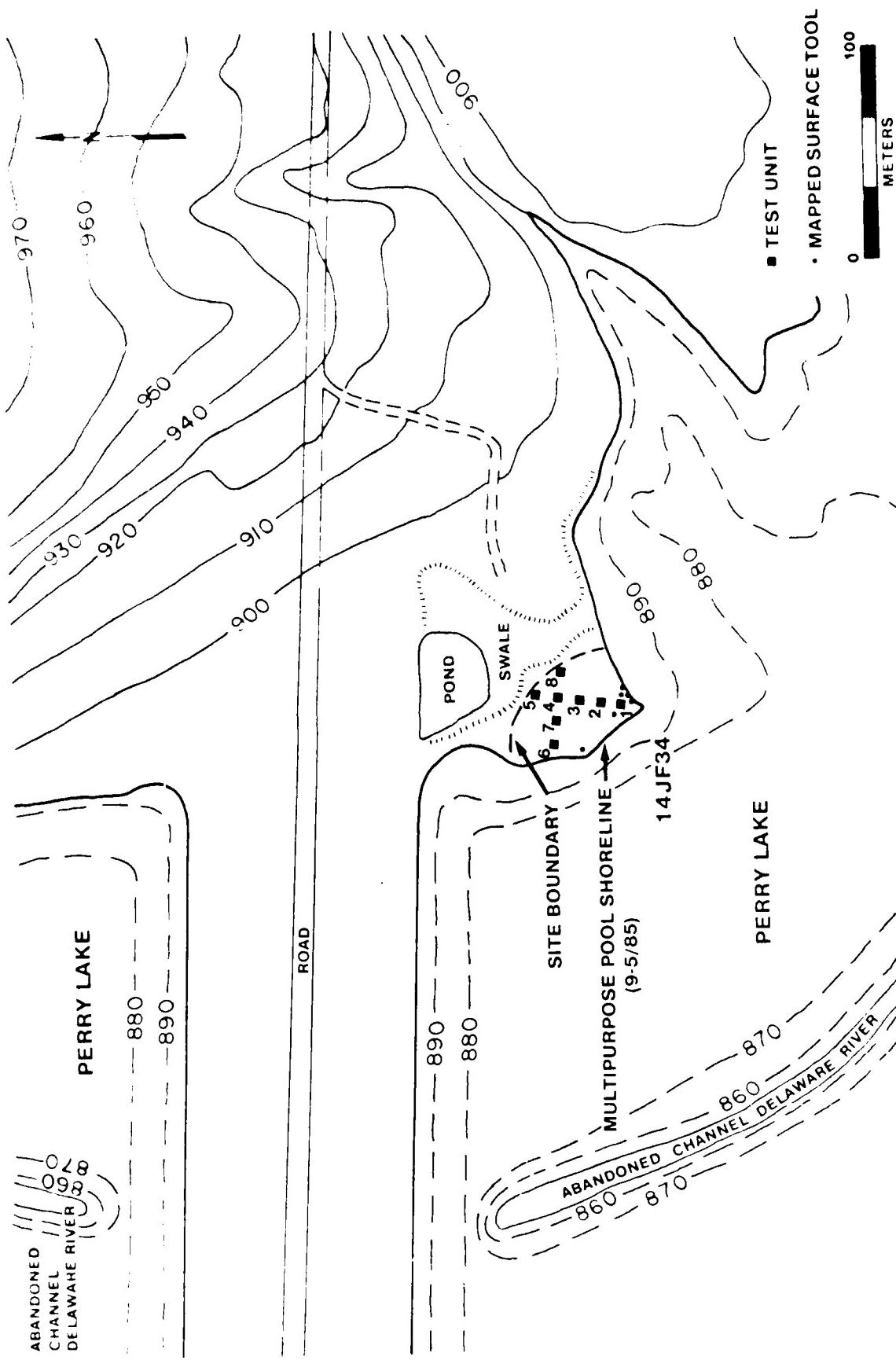


Figure 41. Location and plan view of test excavations at 14JF34.

surface and a bucket auger, 10 cm in diameter, was used to test for more deeply buried deposits to a depth of 1.5 m below surface. Historic cultural debris was restricted to the upper 30 cm of the site, except within Test Unit 1, where glass, wood, nails and masonry were encountered as fill to a depth of 50 cm within an historic foundation. Prehistoric material was also restricted to the upper 50 cm, except within Test Units 2 and 3, where artifacts were encountered to depths of 61 and 56 cm, respectively.

Test Unit 1 was placed at the southern edge of the site within the most concentrated area of prehistoric surficial debris. The bulldozed remains of several historic structures which were partially submerged beneath Perry Lake were present 5 m to the southwest of the unit. The unit contained historic artifacts to a depth of 50 cm and the northeastern corner of a limestone and cement foundation between 11 and 55 cm below surface (Figure 40). Historic debris, including nails, wood, shingles, window glass, brick and mortar occurred as fill within the interior of the foundation. Two large water or drain pipes are located adjacent to the foundation wall at depths of 15 and 40 cm below surface, respectively. The absence of historic bottle glass or ceramics within the fill suggests that the structure was not occupied as a residence. Rather it appears that it represents an outbuilding, perhaps the office of the stock farm which occupied the site in 1965.

Test Unit 2 contained both prehistoric and historic artifacts within the upper 36 cm. Prehistoric material extended to a depth of 61 cm, although all but 4 of the 27 prehistoric artifacts were recovered within the upper 46 cm. The artifacts from below 40 cm consisted of two flakes and two chips. Test Unit 3 also contained historic and prehistoric material within the upper 30 cm, as well as one chert flake at a depth of 56 cm. A square 4 by 4 in post, contained within a round post hole 30 cm in diameter, was encountered at 10 cm and extended to a depth of 60 cm below surface. It probably represents a fence post associated with a stock pen.

Test Units 4, 7 and 8 contained prehistoric and historic material intermixed within the upper 30 cm, while Test Units 5 and 6 contained only historic debris which was restricted to the same depth. A round fence post was encountered at 5 cm below surface within Test Unit 4 that extended to a depth of 18 cm.

Soil Stratigraphy

Soils as located on site can be mapped by the distribution of unity soil series in the Martin soils class loam. Martin soils are deep, well-drained soils derived from materials such that they should be easily eroded. This is not the case. Most of the cultural material recovered from the site was located in the top 10-20 cm horizons with a small number recovered from the 50-60 cm range. The stratigraphy of Test Unit 1 is recorded below.

Apt	0-18 cm	Dark grayish brown (10YR4/2) silty clay loam; weak fine granular structure.
H1	18-23 cm	Dark grayish brown (10YR4/2) silty clay loam; moderate medium blocky structure.
H1t	23-80 cm*	Dark brown (10YR3/2) heavy silty clay loam; moderate medium blocky structure.

Artifact Assemblage

The artifact assemblage recovered from 14JF34 consists of 103 prehistoric and 121 historic cultural items. The prehistoric artifacts include 15 ceramic sherds, 26 chipped stone tools, 57 pieces of lithic manufacturing debris and five pieces of unworked stone. Historic artifacts consist of 9 pieces of bottle glass, two pieces of pressed glass, six pieces of window glass, 18 ceramic fragments, 69 metal items, four pieces of building material and 13 pieces of miscellaneous debris (Table 5).

The prehistoric ceramics include two rim sherds and 13 body sherds that are grit tempered (Figure 42a-b). One of the rims was recovered from the surface and one at 21 cm below surface in Test Unit 2. Both are small sections with smoothed interior and exterior surfaces, rounded lips and slightly recurved rims from vessels of undeterminable size or shape. Six of the body sherds were recovered from the surface, four the 20 to 30 cm level of Test Unit 2, one from the 10 to 20 cm level of Test Unit 3 and two from the 20 to 30 cm level of Test Unit 4. They are all smoothed on the interior surface. Six have cordmarked exterior surfaces and seven have smoothed exterior surfaces, several of which are badly eroded. They range in maximum size from just under 2 cm to slightly over 5 cm and from 6 to 11 mm in thickness. Overall, the ceramics recovered from 14JF34 exhibit characteristics associated in the project area with the Plains Woodland Grasshopper Falls phase ware (Reynolds 1979).

The chipped stone tools include two projectile points, three biface fragments, two flake scrapers, one edge-modified chunk and 18 edge-modified flakes. One of the points is a medium-sized dart point with shallow side notches and an expanding stem with a convex base (Figure 43a). The other is a smaller corner-notched specimen that is more triangular in outline and is missing part of its base, as well as its tip (Figure 43b). Both points were recovered from the surface and were made from fractured gray chert. These points are very similar to projectile points recovered from Plains Woodland Grasshopper Falls phase sites in the project area (Reynolds 1979:134).

The three small biface fragments are also made of local gray or brown chert and were recovered from the surface. They include a base fragment derived from a contracting stemmed point and two medial fragments. The two flake scrapers include one from the surface and one

Table 5. Artifact assemblage from 14JF34.

ARTIFACT CATEGORY	SURFACE	CUT BANK EXPOSURE	TEST UNITS						SITE TOTAL	
			1	2	3	4	5	6		
PREHISTORIC CERAMICS										
Rim Shards	1			1						2
Body Shards	6			4	1	2				13
Total	7			5	1	2				15
CHIPPED STONE TOOLS										
Projectile Points	2									2
Littate Fragments	3									3
Flake Scrapers	1	1								2
Edge-Modified Chunk	1									1
Edge-Modified Flakes	15			2					1	18
Total	22		1		2				1	26
LITHIC MANUFACTURING DEBRIS										
Cores	3									3
Chunk			1							1
Debitage	27		24	1		1				53
Total	30		25	1		1				57
UNWASHED STONE										
							5			5
POTTERY GLASS										
Lip Fragments			1			1				2
Neck Fragment			1							1
Base Fragment						1				1
Body Fragments			1	1	1	1			1	5
Total			2	2	1	1	2	1		9
PRE-COATED GLASS										
					2					2
STAINED GLASS										
			2	1		1	2			6
POST-FIRE CERAMICS										
Stoneware Body Shards	1					1				2
Whiteware Rim Shards	1			2	1	1	1			6
Whiteware Body Shards	4			4	1					9
Earthenware Rim Shard							1			1
Total	6		6	2	1	1	2			18

continued

Table 5 continued. Artifact assemblage recovered from 14JE34.

ARTIFACT CATEGORY	SURFACE	CUT BANK EXPOSURE	TEST UNITS						SITE TOTAL	
			1	2	3	4	5	6		
METAL										
Knife	2									
Canning Jar Lid				1						
Spoon	1									
Cultivator										
Wire Nails		15	26	3	2		3	1	1	51
Cut Nails	1		1		1					3
Fastener						1				
Wire			1				1			
Fencing Staple				1			1			
Scrap Metal			1		2		1		1	5
Total	4		15	30	4	5	1	7	1	69
BUILDING MATERIAL										
Brick			1						1	
Shingle			1							
Miscellaneous					1					
Total			2	1					1	
MISCELLANEOUS DEBRIS										
Clinkers					7					
Seed					1					
Graphite						1				
Slate										
Total					1	8				
TOTAL	69		1	17	73	14	17	2	11	117

recovered from 10 cm below surface at the cutbank shoreline. The later is a heated gray chert, while the unheated tan chert. The edge-modified chunk and its edge primarily exhibit step fracture wear indicating scraping tasks. All of the edge-modified tools were tan, brown or gray cherts, only three of which were heated. Two of the edge-modified flakes were from the 10 cm of Test Unit 2 and one from the 10 to 15 cm. The remainder of the edge-modified tools were surface.

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ARCHAEOLOGICAL SURVEY AND TESTING AT PERRY LAKE
JEFFERSON COUNTY KANSAS(U) ENVIRONMENTAL SYSTEMS
ANALYSTS INC KANSAS CITY KS CULTURAL RESOURCES DIV

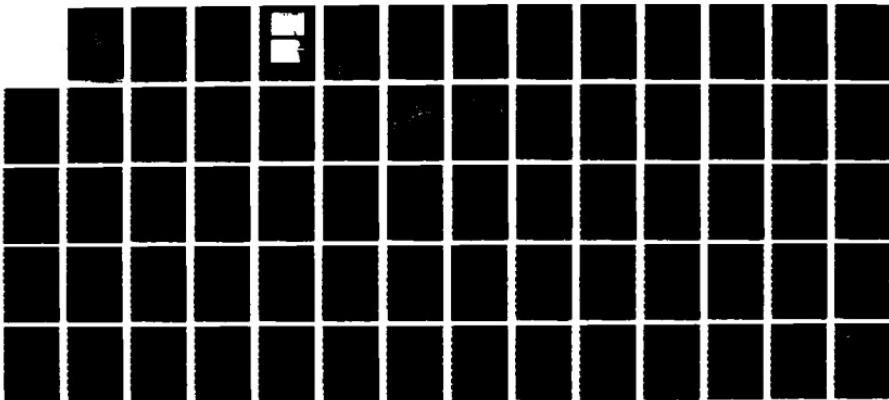
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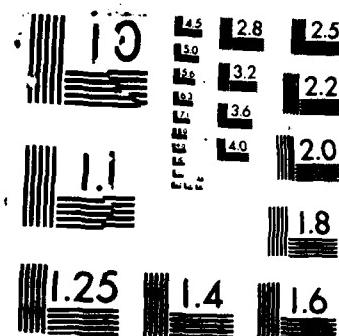
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after 1890, these artifacts could not be dated. Building material recovered from the test units include a brick made by the V.V.V. Brick and T. Co. of Neodesha, Kansas, probably in the late nineteenth or early twentieth century. Also included are one brick fragment, a piece of roof shingle and a piece of concrete. Miscellaneous debris from the test units consist of a piece of graphite from a dry cell battery, eight coal clinkers, three small pieces of slate and a modern uncarbonized seed.

Discussion and Recommendations

14JF34 was initially recorded in 1965 as a Plains Woodland or possibly Plains Village habitation. Later investigations determined the site to be a Plains Woodland Grasshopper Falls phase habitation possibly related to the nearby Netty Busby site (Witty 1983).

The test excavations at 14JF34 documented that the site has been disturbed by erosion and historic development and that only a small area of intact prehistoric deposits remain. Historic and prehistoric artifacts are largely intermixed within the upper 30 cm across most of the site. Prehistoric materials were encountered in an undisturbed context only within Test Units 2 and 3 where a few chert flakes were encountered to a depth of approximately 60 cm. Historic artifacts were encountered below 30 cm only within Test Unit 1 where building material occurred as fill to a depth of 50 cm within a destroyed foundation.

The prehistoric artifacts include several grit tempered cordmarked or smooth surfaced ceramics, as well as one shallow side-notched and one corner-notched projectile point, confirming a Plains Woodland Grasshopper Falls phase occupation. The datable historic artifacts date between 1830 and 1954, with most falling between 1880 and 1920.

The prehistoric assemblage from 14JF34 contains a fairly restricted range of artifact types that indicate that a rather narrow range of activities were conducted at the site and that 14JF34 probably served as a temporarily occupied residential camp. Activities indicated by the assemblage include ceramic and chipped stone tool manufacture, as well as hunting, butchering, hideworking, cooking and light-duty cutting and scraping.

The historic artifacts include evidence, such as window glass, nails and brick as well as domestic artifacts, of former structures. Overall, the artifacts indicate that the historic occupation of the site was intensive and was probably associated with a farmstead rather than the town of Ozawkie. The location of the site at the northwestern portion of the old town site is consistent with the reported stock farm occupying the site in 1965.

14JF34 has been largely destroyed by shoreline erosion and historic development. Only a very limited area of intact prehistoric deposits remain at the site and the historic component has been completely destroyed. The prehistoric component is associated with the Plains Woodland Grasshopper Falls phase which is much better represented at

other sites in the project area and at sites at which excavations have already been conducted (Reynolds 1979; Witty 1983). Therefore, 14JF34 has little potential to significantly add to the prehistory or history of the project area and is not considered eligible for the National Register.

14JF320

14JF320 is located along the eastern shoreline of Perry Lake just north of the Old Town Public Use Area (Figure 3). The site was first recorded in 1963 by Tom Witty and was described as being about 2 ac in extent on the eastern side of the Delaware River valley. The site was revisited by Witty in 1974 and found to extend for a distance of 100 ft along the shoreline of Perry Lake. At that time, the lake was below the multipurpose pool level of 891.5 ft exposing the cultural deposits. The site was also visited by Iroquois Research Institute personnel in 1977 and was reported to be badly eroded by shoreline erosion. Milton Reichart visited the site during the 1979 shoreline survey by the Kansas State Historical Society and also noted that it was severely eroded. It was recommended by Witty (1982) that the site be tested to determine its National Register status. A Plains Woodland Grasshopper Falls phase occupation was identified from the artifacts recovered during these investigations.

The 1985 investigations at 14JF320 included an intensive pedestrian survey, site mapping, surface collection and test excavations. The survey revealed that the site consisted of a moderate to heavy scatter of prehistoric ceramics and lithic debris along the eroded shoreline within an area of approximately 800 sq m. Surface visibility was excellent along the bank but decreased significantly further up the shoreline where the site was covered with driftwood, trees and brush (Figure 43) . The majority of the artifacts were recovered at the southern edge of the site along the eroded shoreline. The site has been recently used by campers and fisherman and recent historic artifacts litter the surface. A circular concentration of burned limestone, representing a recent camp fire, was also observed near the center of the site.

Two perpendicular transects of one by one m test units were excavated at 10 m intervals across the site (Figure 44). These seven units were hand excavated to a depth of 80 cm below surface. A bucket auger, 10 cm in diameter, was used to test for more deeply buried deposits to a depth of 1.5 m below surface. Cultural debris was restricted to the upper 20 cm of five of the seven units. Test Units 4 and 6 were culturally sterile. Test Units 1, 3 and 5 contained redeposited artifacts and Test Units 2 and 7 contained intact deposits.

A stemmed projectile point was recovered at 12 cm below surface in Test Unit 2 and a hearth feature was encountered at 20 cm below surface in Test Unit 7. The feature consisted of a concentration of burned limestone within a shallow basin. No charcoal or organic remains were observed within the feature fill. Only a few chert flakes were associated with the feature which measured about 110 cm north to south



Figure 43. General views of sites 14IE320 and 14IE366; View of the excavation of Test Unit 1 at 14IE320 (upper); view to the northwest of the excavations at 14IE366 (lower).

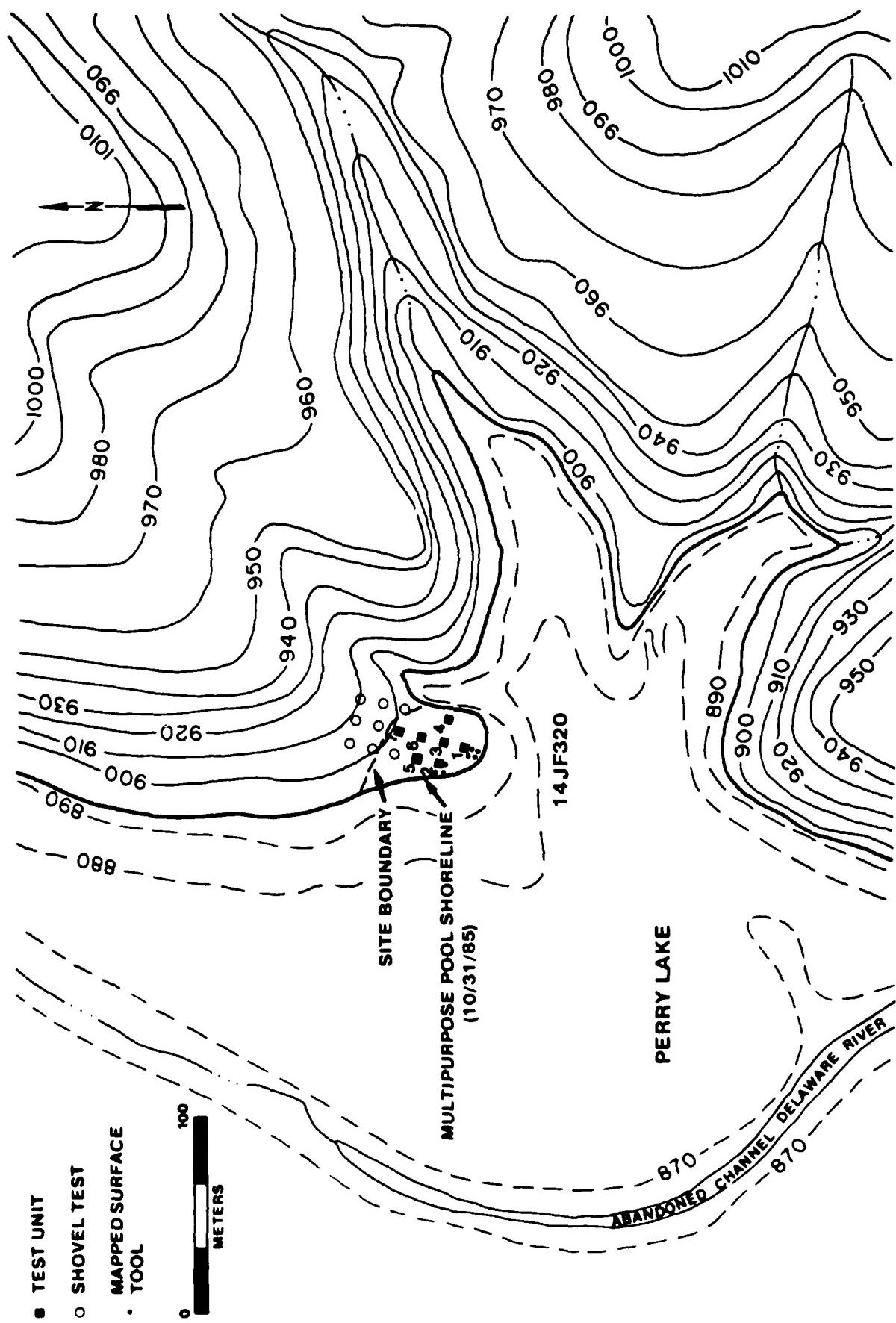


Figure 44. Location and plan view of test excavations at 14JF320.

and 100 cm east to west. It apparently served as a hearth or roasting pit.

Soil Stratigraphy

14JF320 is located on soils mapped by the Jefferson County Soil Survey as Vinland-Rock outcrop complex (Dickey et al. 1977). Up to 15 percent of this unit is comprised of Martin, Gymer, Pawnee, Sogn and Oska soils. Those at 14JF320 most closely resemble the Gymer silt loam soil profile. These soils formed in loess or alluvium and occur on high Pleistocene terraces. All of the subsurface cultural materials recovered from 14JF320 were located in the Ap or B1 horizons. The profile of Test Unit 2 is presented below.

Ap	0-5 cm	Very dark grayish brown (10YR3/2) silt loam; fine granular structure; disturbed by wave action.
B1	5-43 cm	Dark reddish brown (5YR3/3) silty clay loam; moderate fine subangular blocky structure.
B2lt	43-80 cm+	Dark brown (7.5YR3/2) silty clay loam; moderate fine and medium subangular blocky structure.

Artifact Assemblage

The artifact assemblage recovered from 14JF320 consists of 215 prehistoric and one historic cultural items. The historic artifact is a piece of a tin can of recent origin recovered from the upper 10 cm of Test Unit 1. The prehistoric assemblage includes two rim sherds, 71 body sherds, 70 chipped stone tools, 61 pieces of lithic manufacturing debris, seven ground stone tools and four pieces of unworked stone (Table 6).

The two grit tempered rim sherds were recovered from the surface and are badly eroded (Figure 42f-g). They both appear to be smoothed on their interior and exterior surfaces and to have angled or beveled lips. Vessel size or shape could not be determined from these small sherds. Lip thickness is 7 and 8 mm, respectively. Four of the 71 grit tempered body sherds were recovered from the test units and the remainder from the surface. The fresh surfaces exhibited on several of the sherds indicates that they had only recently been exposed by shoreline erosion (Figure 42h-j).

Except for four specimens that are too badly eroded for classification, all of the body sherds were smoothed on the interior. Exterior surface treatment is divided between 38 with cordmarking, 26 that are smoothed and seven that are too badly eroded to classify. The body sherds range in maximum size from slightly less than 2 cm to slightly over 10 cm. Thickness ranges from 6 to 20 mm and averages

Table 6. Artifact assemblage recovered from 14JF320.

ARTIFACT CATEGORY	SURFACE	TEST UNITS					SITE TOTAL
		1	2	3	5	7	
PREHISTORIC CERAMICS							
Rim Sherds	2						2
Body Sherds	67	2					71
Total	69	2					73
CHIPPED STONE TOOLS							
Projectile Points	2		1				3
Drills	2						2
Biface Blanks	2						2
Biface Fragments	3						3
Perforator	1						1
Notch	1						1
Flake Scrapers	2						2
Edge-Modified Chunks	4						4
Edge-Modified Flakes	49	3					52
Total	66	3	1				70
LITHIC MANUFACTURING DEBRIS							
Cores	5		1				6
Chunks	3	1		2			6
Flakes	17			2			19
Chips	18	3	2				23
Shatter	6	1					7
Total	49	5	3	4			61
GROUND STONE TOOLS							
Mano	1						1
Hammerstones	5						5
Fragment	1						1
Total	7						7
UNWORKED STONE							
		2	2				4
HISTORIC							
		1					1
TOTAL	191	11	1	5	2	6	216

9.9 mm. The thickest specimen appears to be a base section of a conical based vessel (Figure 42j). Cordmarking is almost always parallel and is eroded or perhaps smoothed over in some cases. Overall, the assemblage from 14JF320 is similiar to ceramics recovered from several sites in the project area associated with the Plains Woodland Grasshopper Falls phase (Reynolds 1979).

The chipped stone tools consist of three projectile points, two drills, two blanks, three biface fragments, one perforator, one notch, two flake scrapers, four edge-modified chunks and 52 edge-modified flakes. The projectile points include two from the surface and one from 12 cm below surface in Test Unit 2. The surface specimens are represented by a small triangular corner-notched arrow point with a serrated blade (Figure 42k) and a small unnotched triangular point (Figure 42l). The former was recovered at the southern edge of the site adjacent to the ceramics described above. It is missing one lobe of its straight base and was made from a gray fossiliferous chert. This corner-notched specimen is similar to those recovered from Plains Woodland Grasshopper Falls phase sites in the project area (Reynolds 1979).

The unnotched point was located further up the shoreline about 150 m north of the other surficial debris. This point is probably not associated with the Plains Woodland occupation of 14JF320 but rather appears to represent an isolated find spot associated with the later Plains Village occupation of the project area. It was made from a flake of non-local white chert.

The projectile point recovered from Test Unit 2 is a larger stemmed variety representing a dart point or hafted cutting tool (Figure 42m). It has a relatively thick, plano-convex cross-section and broadly excurvate lateral blade margins. The stem is straight to slightly constricted and flares outward at the straight base. It was made from a piece of tan chert and resembles points recovered from the early Late Archaic levels of the Coffey site in northeastern Kansas dated at 5080 ± 65 years B.P. (Schmits 1981:27). No other artifacts were associated with this point and it appears to represent an isolated occurrence at 14JF320.

The two drills were recovered from the surface and consist of medial fragments with expanding bases (Figure 42n). Both are missing most of the tip and appear to have broken during use. One was made from light gray chert and the other from dark gray chert which may have been heated. The two bifacial blanks were also recovered from the surface. They include a nearly completely flaked small cobble of stream patinated light brown chert and a larger piece of gray chert with a few primary flakes removed from both faces. The former would have been suitable for reduction into a projectile point or knife. The three biface fragments include one distal and two lateral sections of points or knives made from brown or gray chert. One of the fragments is heated and all three were recovered from the surface.

The perforator is a small cortical flake of dark brown stream patinated chert marginally flaked along both lateral margins which converge to form an acute tip. It was recovered from the surface, as

were the two flake scrapers and the notch which exhibit steep marginal retouch. The edge-modified tools include four chunks and 52 flakes with predominately step fracture wear. Except for one flake of diorite, all of these tools were made from local tan, brown or gray cherts, ten of which appear to have been heated. Three of the edge-modified flakes were recovered in Test Unit 1 and the remainder of the edge-modified tools were located on the surface.

Lithic manufacturing debris from 14JF320 includes six cores, six chunks, 19 flakes, 23 chips and seven pieces of shatter. The vast majority was recovered from the surface and consists of locally derived tan, brown or gray cherts. Only a small percentage of this material appears to have been heated.

The ground stone tools include one mano, five hammerstones and one celt fragment. The mano is a piece of quartzite smoothed on one surface, while the hammerstones consist of quartzite or granite with battering along one or more edges. The possible celt fragment is a piece of diorite pecked over most of the surface. The unworked stone was recovered from Test Units 3 and 7 and consists of four small pieces of burned limestone.

Discussion and Recommendations

14JF320 is located along the eastern shore of Perry Lake just north of the Old Town Public Use Area. The site was initially recorded in 1965 and has been revisited on several occasions by personnel from the Kansas State Historical Society and Iroquois Research Institute. These investigations indicated that the site is affiliated with the Plains Woodland Grasshopper Falls phase.

The 1985 test investigations documented that the site has been severely eroded by wave action and is largely deflated. Artifacts were restricted to the upper 20 cm of five of the seven test units. Intact deposits were limited to Test Units 2 and 7, with the other three units containing artifacts redeposited by wave action along the shoreline.

The grit tempered ceramics, and the small corner-notched projectile point similar to a Scallorn variety, confirm the Plains Woodland Grasshopper Falls phase occupation previously reported for the site. The recovery of a stemmed dart point at 14 cm below surface within Test Unit 2 indicates that an earlier Late Archaic component is also present. Similar points have been recovered from the Coffey site near the Tuttle Creek Reservoir and radiocarbon dated at 5080 years B.P. (Schmits 1981). The Archaic occupation was apparently not very intensive, as no other artifacts were recovered in association with this point.

One small unnotched triangular point was recovered along the shoreline about 150 m north of the other artifacts. It suggests that a Plains Village component was present in the area, although little can be said regarding this occupation since the point represents an isolated find.

The only feature encountered consisted of a shallow basin-shaped hearth or roasting pit in Test Unit 7. Given its shallow depth below surface, it appears to be associated with the Plains Woodland occupation.

Overall, the artifact assemblage recovered from 14JF320 indicates that the site served as a Plains Woodland base camp, or perhaps small hamlet, where a wide variety of subsistence and maintenance tasks were performed. Activities indicated by the artifact assemblage include ceramic, chipped stone and ground stone tool manufacture, as well as hunting, gathering, butchering, perforating, woodworking, heavy and light-duty scraping, plant food preparation and cooking. The concentration of artifacts at the southern edge of the site suggests that a specialized refuse disposal or a "dump" may have been represented. Unfortunately, this portion of the site has been completely destroyed by shoreline erosion and it is not certain if the accumulation of surficial debris is a result of past cultural systems or recent natural processes.

The cultural deposits at 14JF320 have been largely destroyed by shoreline erosion and only a small area of intact deposits remain. The limited area of the intact deposit and the low subsurface artifact density indicated that the site has little potential for adding significant data to the local prehistory. Therefore, 14JF320 site is not considered eligible for the National Register and no further archaeological work or management is recommended.

14JF366

14JF366 was located by Milton Reichart during the 1979 shoreline survey conducted by the Kansas State Historical Society (Witty 1982). The site is located on an upland side slope along the shoreline of the Rock Creek arm of Perry Lake within Perry State Park (Figure 3). As initially recorded, the site consisted of a cultural deposit eroding out of a cutbank formed by wave action. A basin-shaped feature possibly representing a prehistoric borrow pit was encountered and excavated (Witty 1982:42). A relatively large artifact assemblage was recovered including several sherds from the excavated feature. Ceramics included Grasshopper Falls phase ware in addition to limestone tempered ceramics that represented a different ceramic tradition. The latter ware included sherds with incising and strap handles, decorative techniques indicating a Mississippian cultural influence. Witty (1982:59) suggested that 14JF366 represents a multicomponent occupation containing both Grasshopper Falls phase Woodland and Mississippian influenced Middle Ceramic (Plains Village) components.

The 1985 investigations at 14JF366 consisted of an intensive pedestrian survey, site mapping and excavation of three test units. The multipurpose pool was at 893.0 ft above msl and had flooded the lower portion of the shoreline (Figure 43). The cutbank, within which cultural material had been observed by Witty (1982), was severely eroded and approached 1.5 to 2.0 m in height. The underlying shale was exposed along most of the shoreline.

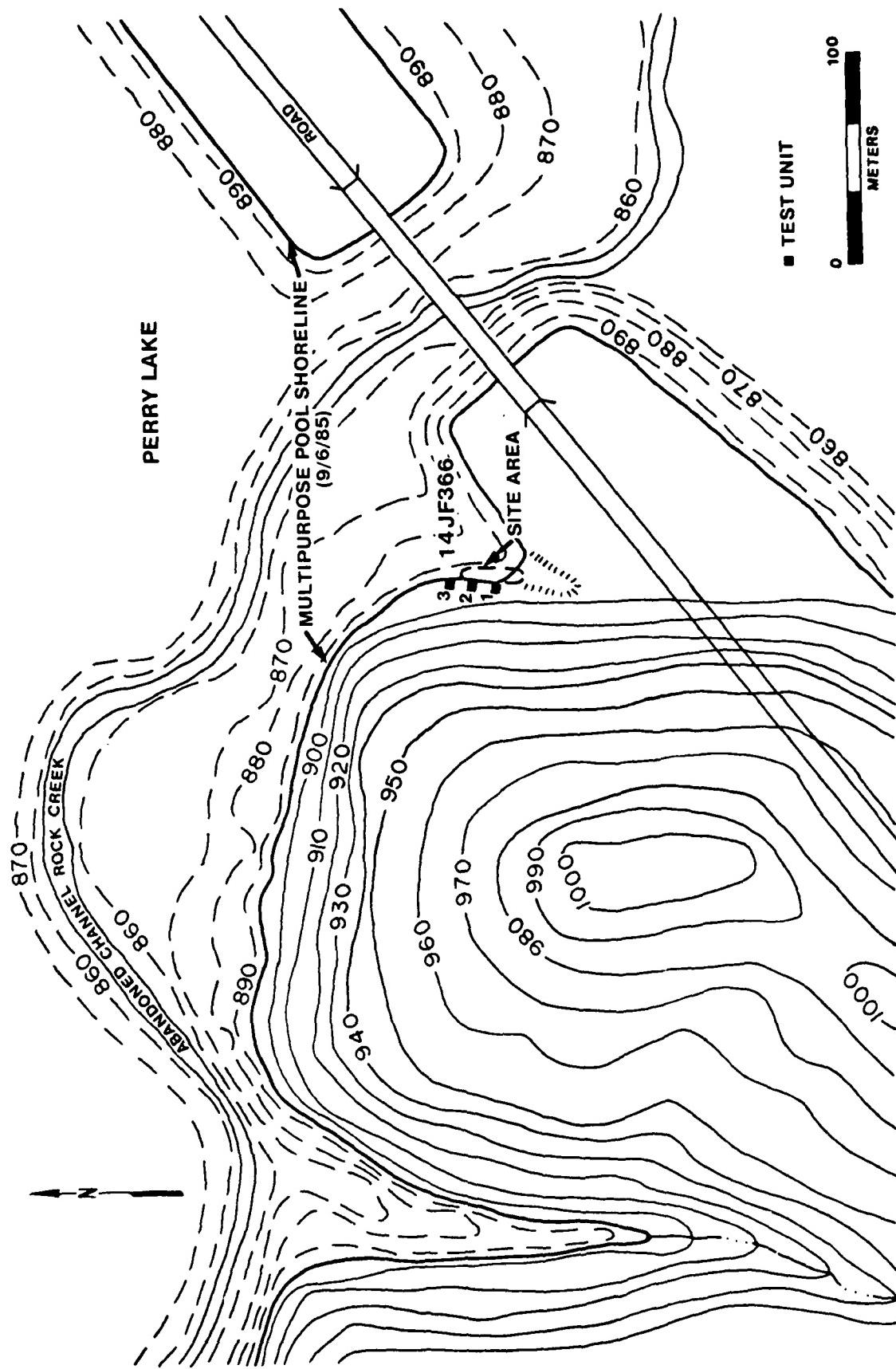


Figure 45. Location and plan view of test excavations at 14JF366.

No artifacts were located on the surface or within the cutbank profile. Three one by one m test units were placed at 10 m intervals along the top of the cutbank (Figure 45). They were hand excavated to an average depth of 50 cm below surface. A soil auger, 10 cm in diameter, was used to test for more deeply buried deposits to a depth of one m below surface. No definitely cultural items were recovered. Two pieces of unworked chert were located in the 20 to 30 cm level of Test Unit 2 and three chert cobbles from the 0-10 cm level of Test Unit 3. Those represent the only potentially cultural items recovered from the site.

Soil Stratigraphy

14JF366 is located on soils mapped by the Jefferson County Soil Survey as the Vinland Rock Outcrop complex (Dickey et al. 1977). Vinland soils are shallow, moderately sloping to steep on upland side slopes. They formed in parent material weathered from shale. The upper 20 cm consists of a dark grayish brown silty clay loam underlain by dark brown and pale brown friable silty clay loam to a depth of 60 cm. The test units at 14JF366 exhibited similiar profiles and the profile of Test Unit 1 is presented below.

A	0-20 cm	Very dark grayish brown (10YR3/2) silty clay loam; fine granular structure.
B2	20-40 cm	Dark brown (10YR4/3) silty clay loam; fine subangular blocky structure.
C	40-60 cm+	Pale brown (10YR6/3) silty clay loam; contains highly weathered shale and small pieces of sandstone.

The only possible cultuial materials were recovered from the A or B2 horizons. These probably represent colluvially deposited chert rather than cultural items.

Discussion and Recommendations

14JF366 is located along the southern shore of the Rock Creek arm of Perry Lake. The site was initially recorded in 1979 and at that time consisted of a cultural deposit eroding from the cutbank. The ceramics recovered from the site indicated that both Plains Woodland Grasshopper Falls phase and Plains Village cultural components were represented. Limited testing at that time indicated that while the site was largely destroyed, a small portion at the upper shore remained intact (Witty 1982:56). As a consequence, it was recommended that the site be revisited at a time when the lake was drawn down far enough to expose the lower portion of the shore and the remainder of the site.

Unfortunately, the level of the multipurpose pool was at 893.0 ft above msl during the 1985 investigations at 14JF366. Therefore, it could not be determined if intact deposits extend below the level of 890.99 ft above msl, or the level of the lake during the 1979 investigations. However, the 1985 investigations have determined that the intact portion of the deposit recorded by Witty (1982) has been completely destroyed. Furthermore given the extent and severity of the erosion observed along the shoreline it appears highly unlikely that intact deposits would be present below 890.99 ft above msl. No definitely cultural material was recovered during the investigations and the site appears to have little potential for significantly adding to the local prehistory given the severity of the shoreline erosion. 14JF366 is not eligible for the National Register and no further archaeological work or management is recommended.

SUMMARY

During the summer and fall of 1985 an intensive cultural resources survey and preliminary site testing program was conducted at Perry Lake. The survey covered over 2700 ac of project lands and resulted in the location of 27 previously recorded and 23 newly recorded archaeological sites. National Register Testing was also conducted at previously recorded sites 14JF34, 14JF320 and 14JF366 bringing the total number of sites investigated to 53. Newly recorded sites include 14JF101 through 14JF123. The other sites were recorded between 1963 and 1979 during surveys conducted by the Kansas State Historical Society, University of Kansas or by Milton Reichart, a local amateur archaeologist.

None of the 53 sites investigated are recommended for nomination to the National Register at this time. However, additional National Register Testing is recommended for 18 of the sites (14JF38, 14JF44, 14JF54, 14JF103, 14JF105, 14JF109, 14JF112, 14JF118, 14JF414, 14JF417, 14JF423, 14JF450, 14JF452, 14JF454, 14JF464, 14JF465, 14JF477, 14JF484) which contained either partially intact deposits or intact soil profiles indicating that intact cultural deposits may be present. Additional testing will be required at each of these sites to recover the data needed to determine their National Register status. It is anticipated that further testing will determine that several of the sites meet the requirements for National Register eligibility. The remaining 35 sites are not considered eligible for the National Register. These sites have been either bulldozed or are largely destroyed by cultivation and erosion and offer little potential for significantly adding to the history or prehistory of the project area.

VII. SUMMARY AND RECOMMENDATIONS FOR FUTURE CULTURAL RESOURCE MANAGEMENT AT PERRY LAKE

Larry J. Schmits and John M. Parisi

Perry Lake is a flood control project located in the Prairie Plains of eastern Kansas and operated by the U.S. Army Corps of Engineers, Kansas City District. Over two decades of archaeological research by the University of Kansas, the Kansas State Historical Society and Iroquois Research Institute have demonstrated the potential of the lake area for producing significant cultural resources relating to the prehistory of eastern Kansas. Despite these efforts and those of private individuals such as Milton Reichart of Valley Falls, Kansas, the cultural resources of the project area have only been partially inventoried. In order to provide compliance with Executive Order 11593, entitled "Protection and Enhancement of the Cultural Environment" and the National Historic Preservation Act of 1966 (Public Law 89-665), the U.S. Army Corps of Engineers contracted with Environmental Systems Analysis, Inc. for a program of archaeological survey and testing at the lake.

Perry Lake is located in the lower Delaware River valley, which is a subbasin of the Kansas River drainage system. The project area lies within the Dissected Till Plains section of the Central Lowlands physiographic province. This region is characterized by a rolling glacial landscape where till and loess mantle most of the divides. The climate of the region is a continental type with large diurnal and annual variations in temperature. The natural vegetation of the region consists of oak-hickory communities on steep slopes and in ravines, and tall grass prairie on the uplands.

The major alluvial landforms in the project area consist of high terraces, low terraces and floodplain deposits. The Buck Creek Terrace is the most common high terrace in the project area. It is approximately 11 m above the modern floodplain and it is composed of Pre-Illinoian (Pleistocene) sediments. The low Newman Terrace is about 3 m above the floodplain and its fill appears to be late Wisconsinian to late Holocene in age (12,000-1000 years B.P.) Several buried paleosols occur in the Newman Terrace indicating previous episodes of landscape stability. There is also a modern floodplain that consists of late Holocene and recent alluvium which dates to the past 3000 years.

There are clear relationships between soils and landscapes in the project area. The principal soil on the modern floodplain is the weakly developed Kennebec soil. Principal soils on the low Newman Terrace are the Reading and Wabash soils. The Reading and Wabash soils are characterized by well developed B horizons. The primary soils on the high Pleistocene terraces (Buck Creek and Menoken) are the Gymer and Haig series. The strongly developed Gymer and Haig soils are formed in Pleistocene loess that mantles the Buck Creek and Menoken terraces. The

principal soils formed in residuum on the uplands are the Sogn, Martin, and Vinland series. There are also a number of loess and till derived soils on the uplands.

The present investigations were designed to provide for both archaeological survey and limited site testing and National Register testing. According to the Scope-of-Work, the investigations were structured to provide a determination of (1) the number of prehistoric and historic archaeological resources present; (2) their areal and temporal extent; (3) their cultural and scientific importance; (4) if future National Register testing is required; (5) if any potentially significant sites are present; and (6) possible alternatives for the mitigation of National Register eligible sites. These investigations were to consist of intensive survey and preliminary testing of between 2500 and 3000 ac of project lands and National Register testing of sites 14JF34, 14JF320 and 14JF366.

A total of 53 sites were located or investigated in the project area. This number includes 50 sites located in the survey area and three sites where National Register Testing was conducted. These 53 sites contained a total of 77 components including five Plains Archaic, 21 Plains Woodland, six Plains Village, ten unknown prehistoric and 35 Historic Euroamerican components.

The five Plains Archaic components include 14JF320, 14JF414, 14JF417, 14JF483 and 14JF484. The identification of Archaic occupations at the later two sites (14JF483 and 14JF484) must be viewed as tentative. Only one corner-notched dart point was recovered from 14JF483 which could possibly date to the Woodland period. Although Milton Reichart reported Archaic material at 14JF484, no evidence of an Archaic occupation was encountered during the present investigations. Rather, a small number of sherds and three small points were recovered indicating the presence of a Plains Woodland component. The other three Plains Archaic sites are characterized by corner-notched, stemmed or lanceolate projectile points similar to those recovered from several Late Archaic sites in eastern Kansas variously assigned to the Munkers Creek or Black Vermillion phases (Witty 1982, Schmits 1981). These point types have been securely dated at the Coffey site between 5270 and 5055 years B.P. and at the De Shazer Creek site at 4215 ± 180 years B.P. (Schmits 1981).

The Late Archaic component at 14JF320 is represented by a single dart point indicating that the occupation was not very intensive. More intensive, longer term occupations are present at 14JF414, which appears to be a large upland base camp, and at 14JF417, which is perhaps a less intensively occupied hunting camp. Additional National Register test excavations are recommended for sites 14JF414, 14JF417 and 14JF484. This work should provide additional data on the Archaic occupation of the project area which is sorely lacking. Sites 14JF320 and 14JF483 lacked content and were determined to be not eligible for the National Register.

The 21 Plains Woodland components include sites 14JF34, 14JF35, 14JF38, 14JF44, 14JF50, 14JF54, 14JF320, 14JF366, 14JF415, 14JF417, 14JF450, 14JF451, 14JF452, 14JF462, 14JF464, 14JF465, 14JF471, 14JF472, 14JF473, 14JF477 and 14JF484. These components have been recognized on the basis of cordmarked and smooth-surfaced grit tempered ceramics and small side and corner-notched arrow points. Most, if not all, of these sites appear to be Grasshopper Falls phase occupations. Over 150 Grasshopper Falls phase components have been identified in the project area (Reynolds 1979, 1981). Only eight of the sites (14JF35, 14JF54, 14JF50, 14JF462, 14JF464, 14JF465, 14JF471, 14JF477) appear to represent single component Plains Woodland occupations. The remainder are multicomponent sites.

Further National Register test investigations are recommended for nine of the sites with Plains Woodland components. These include 14JF38, 14JF44, 14JF54, 14JF417, 14JF450, 14JF464, 14JF465, 14JF477, and 14JF484. Three of these sites are multicomponent. At one of the sites, 14JF484, partially intact subsurface deposits were encountered. The other eight sites exhibit partially intact upper soil horizons indicating that intact Plains Woodland components are present. Based on the data available, only two of these sites (14JF450, 14JF477) appear to represent long term habitation sites. These sites are similar in content to those identified by Reynolds (1981) as small isolated hamlets which represent a major component of the Grasshopper Falls phase settlement pattern. The other sites appear to represent more temporary such as residential camps rather than base camps or longer term occupations. The additional testing recommended for these sites should focus on a determination of their role in overall Plains Woodland settlement and subsistence pattern as determine their National Register status.

The other 12 Plains Woodland components encountered during the 1985 investigations are small or poorly preserved and were not recommended for further investigations. Overall the 21 Plains Woodland components contained in the 1985 sample, confirm the earlier observations made by Reynolds (1979) and Witty (1982) regarding the apparent intensity of the Plains Woodland occupation of the project area. Obviously, the project area was extensively utilized by the prehistoric Plains Woodland occupants.

The six Plains Village components include sites 14JF105, 14JF320, 14JF366, 14JF414, 14JF418, and 14JF423. Except for 14JF418 all are multicomponent occupations. Three of the sites (14JF320, 14JF366 and 14JF418) are poorly preserved and are not considered eligible for the National Register. The other three sites have been recommended for further testing. Although assigned to the Plains Village period on the basis of one projectile point, 14JF105 occurs at the recorded location of an historic "Indian Village" on the 1855 CLO map. Other than a historic well and one recent glass bottle, no historic period artifacts confirming a Protohistoric or Historic Delaware Indian occupation were recovered.

A triangular arrow point found to the north of 14JF320 indicates the presence of a Plains Village component in the area, although the

site primarily dates to the Woodland period. 14JF414 also contained one triangular point fragment suggesting the presence of a Plains Village occupation. This occupation was apparently not very intensive and the predominant prehistoric occupation at 14JF414 occurred during the earlier Plains Archaic period. 14JF423 contained an intact feature that appears to be associated with an aboriginal structure. Further testing at the site should determine the nature and significance of the Plains Village component represented. Given that only six Plains Village components were recognized within the sample of sites investigated, it appears that the late prehistoric occupation of the project area was not very intensive.

No diagnostic artifacts were recovered from ten sites including 14JF3, 14JF36, 14JF66, 14JF102, 14JF103, 14JF114, 14JF117, 14JF119, 14JF314 and 14JF454. Except for 14JF119, which contained only one flake, these sites are characterized by small, light scatters of prehistoric lithic manufacturing debris. Most appear to represent small, limited use procurement or processing sites. 14JF103, 14JF114 and 14JF454 contain partially intact soil profiles and were recommended for additional testing to determine their National Register status. The remainder have limited content and lack subsurface integrity and are not considered eligible for the National Register.

The 35 historic components include 30 farmsteads, two historic townsites, two limestone section walls and one recent historic dump. Most of the farmsteads date to the late nineteenth and early twentieth centuries and nearly all were destroyed during lake construction. Except for two farmsteads (14JF109 and 14JF112), no further work was recommended for these sites. The two historic townsites include 14JF116 and 14JF118. The former is the free state town of Pleasant Hill, Kansas, a small community settled in 1854. Although a few artifacts dating to the period of the early townsite were recovered from 14JF116, the majority appear to be associated with a turn of the century farmstead also present at the site. The name Pleasant Hill has continued to be used in the project area for a considerable time after the town's demise. It was given to the Pleasant Hill school house erected in 1888 which still stands about two miles northwest of 14JF116. The original townsite has been destroyed by cultivation and no further archaeological work is recommended.

14JF118 was the early townsite of Ozawkie, a proslavery headquarters in the area. The town served as an early commercial as well as political center and played an important role in the early history of Jefferson County. After an initial florescence, followed by a period of decline, Ozawkie remerged as a viable community after the Civil War and remained an important trading and commercial center in the area until the construction of Perry Lake. The original townsite was bulldozed at that time and the new town of Ozawkie was established to the northwest of 14JF118 on the opposite lake shore. The foundation remains encountered along the shoreline substantiate several eyewitness accounts of the town's destruction. After the buildings were leveled about 30 cm of top soil was placed over the rubble. It appears likely that areas of intact cultural deposits relating to the early development of Ozawkie remain at the site. Therefore additional testing has been

recommended to establish the site's National Register status.

The research goals defined for the cultural resource survey at Perry Lake were derived from data acquired from previous investigations, the preliminary geomorphological analysis and a review of the currently available information on the archaeology of eastern Kansas. These research goals were divided into three major problem domains: (1) refinement of the culture history of the project area; (2) delineation of settlement-subsistence pattern and (3) the formulation of a preliminary model of terrace sequence and alluvial chronology of the Delaware River basin. The field and laboratory strategies were designed to generate data which would fulfill the requirements of the Scope-of-work as well as the research goals.

CULTURE HISTORY

A major goal of the cultural resources survey was to refine the culture history of the project area. Data derived from previous investigations as well as the results of the 1985 investigations at Perry Lake have been summarized below to provide an overview of the culture history of the project area. Information on the archaeology of Perry Lake has resulted primarily from excavations conducted by the Kansas State Historical Society and the University of Kansas for the National Park Service in the early 1960's as well as by more recent survey and testing projects sponsored by the U.S. Army Corps of Engineers. In addition to the federally funded research, amateur archaeologists, particularly Milton Peichart of Valley Falls, Kansas, have conducted archaeological investigations in the project area.

Authorization of the construction of Perry Lake in the early 1960's initiated a series of federally funded surveys and excavations. The first systematic surveys were performed by the Kansas State Historical Society in 1962 and 1963 under contract with the National Park Service. These inventories resulted in the location of 35 archaeological sites (Witty 1964). Sites located included an isolated Plainview point surface find and a number of Plains Woodland and Plains Village habitational sites. In 1964 and 1967 the Kansas State Historical Society conducted two seasons of excavation in the northern portion of the lake area with funding provided by the National Park Service. Sites 14JF303, 14JF312, 14JF319 and 14JF328 were excavated in 1965 (Witty 1983) and sites 14JF307, 14JF331 and 14JF333 were excavated in 1967 (Reynolds 1978). These excavations resulted in the definition of the Plains Woodland Grasshopper Falls phase occupation as well as recovering important information on the later Plains Village Pomona focus.

In 1965, the University of Kansas conducted archaeological investigations in the southern portion of the lake area along Big Slough and Evans Creeks (Jones 1968). This work included surface collection at 36 sites, testing at 14JF4, 14JF11 and 14JF44 and more extensive excavation at 14JF19, 14JF58 and 14JF64. Also in 1965, three mounds (14JF22, 14JF26 and 14JF337) were excavated by Dick McWilliams of the

Smithsonian River Basin Surveys (Bass, McWilliams and Jones 1967).

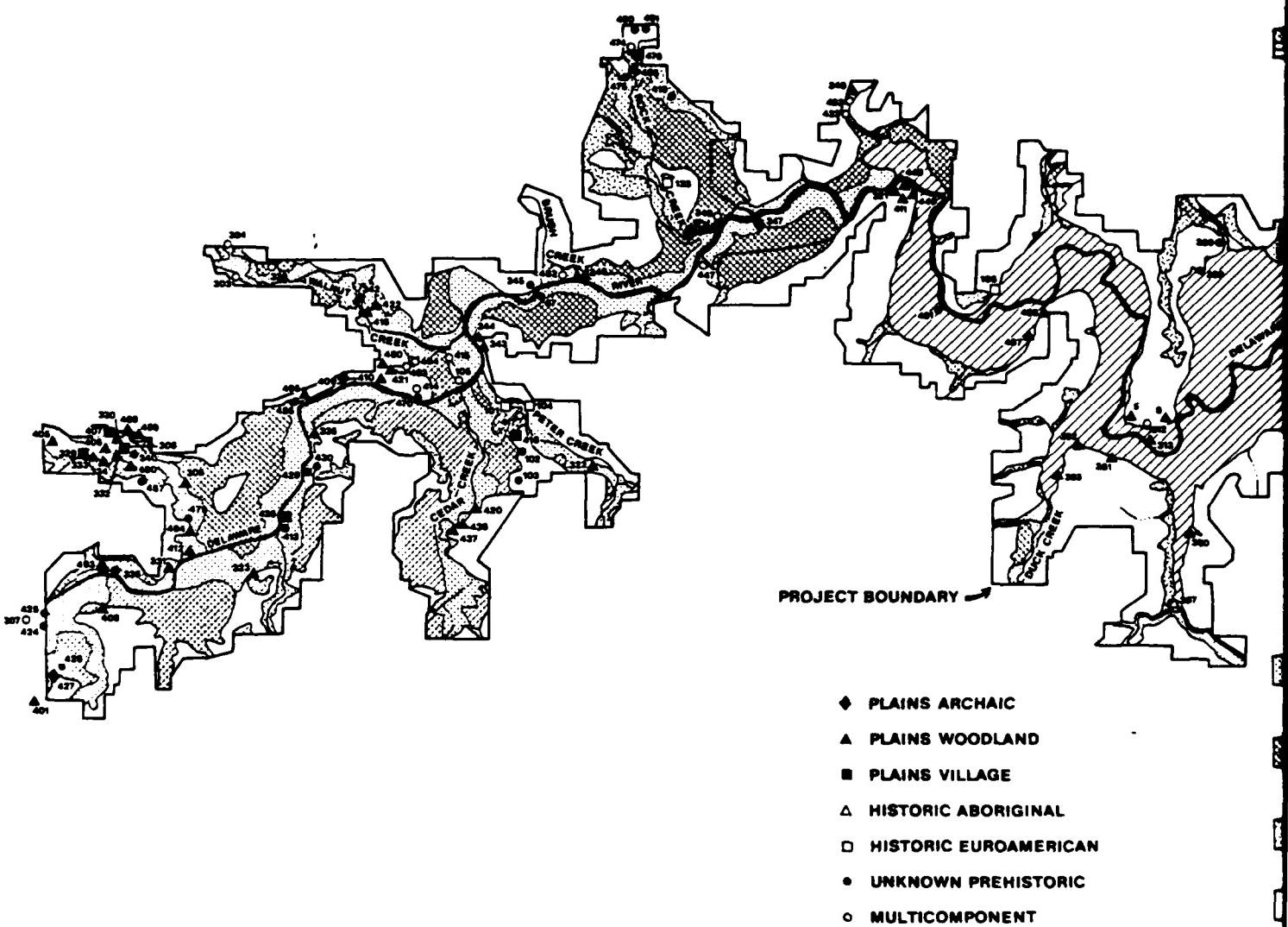
In 1972 and 1973 archaeological surveys were conducted by Milton Reichart along Cedar Creek on the western shore of Perry Lake resulting in the location of 42 sites (Reichart 1976). Reichart (1972) has also reported on the location of a Plainview Paleo-Indian point recovered from a gravel bar in the project area. The Kansas State Historical Society conducted an archaeological field reconnaissance along the right-of-way of two road improvement projects for Perry Lake in 1976 resulting in the location of site 14JF357 (Jones 1976).

In 1977, Iroquois Research Institute (1977) prepared a Preliminary Management Plan for Cultural Resources at Perry Lake for the U.S. Army Corps of Engineers. As a result of the management recommendations, a sample shoreline survey was conducted in 1979 by the Kansas State Historical Society (Witty 1982). The survey inventoried 20 miles of shoreline resulting in the location of four previously recorded and ten newly recorded sites. Most recently, Reichart (1984) has reported the recovery of a deeply buried Archaic Munkers Creek knife at 14JF493.

With the completion of the 1985 investigations, a total of 263 components have been identified in the Perry Lake project area (Table 7). Included are 12 Plains Archaic, 115 Plains Woodland, 25 Plains village, one Historic Aboriginal and 40 Historic Euroamerican components (Table 7). The location of these components is shown in Figure 46.

Both Witty (1982) and Reichart (1977) have reported isolated Paleo-Indian Plainview projectile points finds in the project area, but no definite Paleo-Indian occupation sites have been identified. Reichart (1974, 1985) has also recovered two Dalton (Meserve) points from gravel bars along the Delaware River to the north of Perry Lake. These points indicate occupation of the project area during the late Paleo-Indian or early Archaic periods, since Dalton points are associated with this transitional period (Chapman 1975).

None of the reported Archaic sites in the project area have been intensively studied (Witty 1982). Reichart (1973) reported the recovery of an early Archaic point identified as a Beaver Lake point. He also reported a Graham Cave point from 14JF414, however Witty (1982, 1983) has referred to it as a Late Archaic point type. This point type is generally considered diagnostic of the Early Archaic period in Missouri (Chapman 1975), although the recovery of other Late Archaic Points from 14JF414 during the 1985 survey supports Witty's later temporal placement. Witty (1983) has also recovered a Table Rock point from the Keen site (14JF303) which indicates a possible Late Archaic El Dorado phase occupation at this site. Reichart (1984) has found a Munkers Creek knife buried in a cutbank of the Delaware at 14JF493 indicating a Late Archaic Munkers Creek or Black Vermillion phase occupation at this site. The recovery of other Late Archaic points at 14JF220, 14JF414 and 14JF417 (Paris: this volume), similar to those recovered from the Black Vermillion phase component at the Coffey site (Schmits 1981) is further evidence of either Black Vermillion phase or Munkers Creek phase occupation of the Perry Lake area.



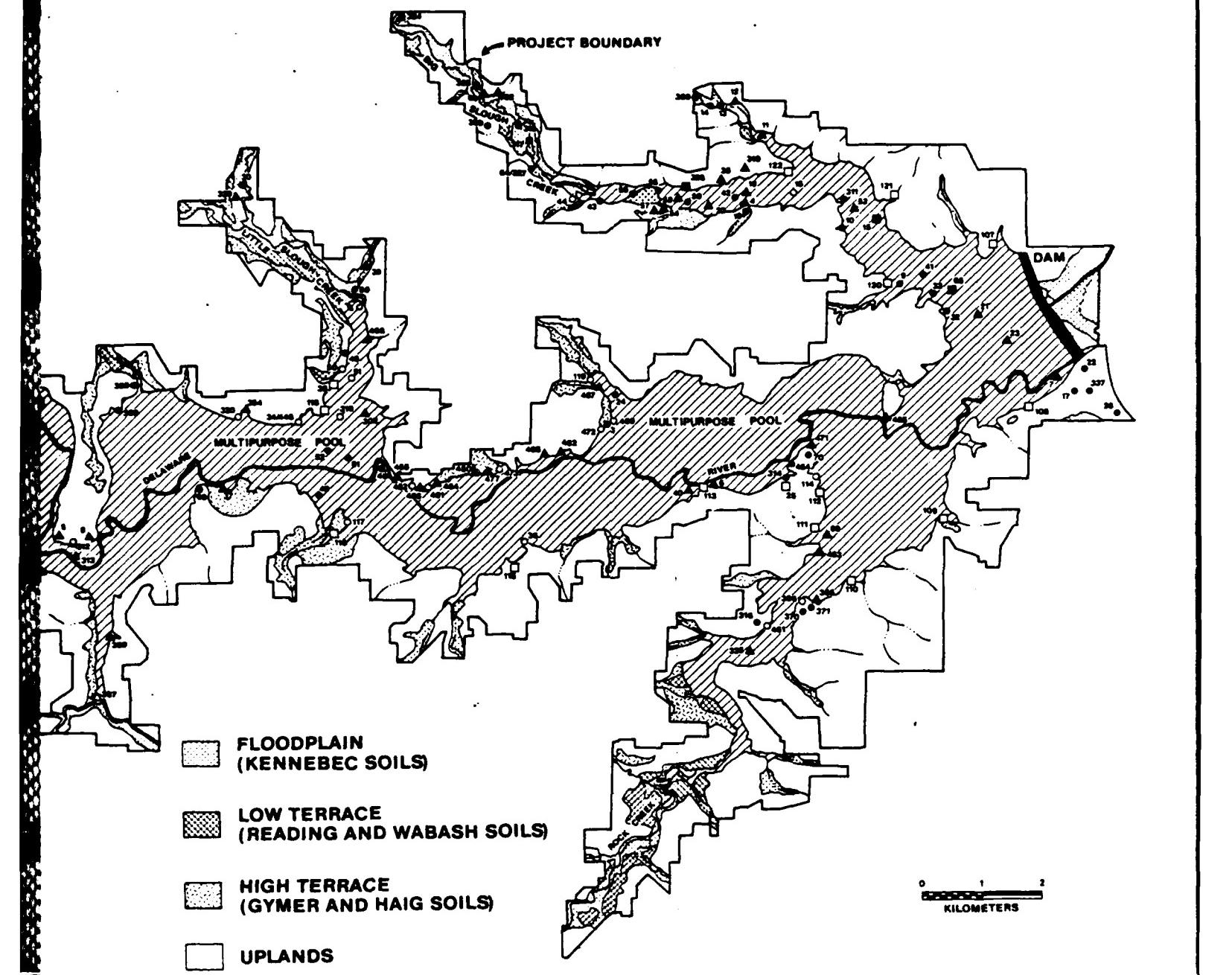


Figure 46. Location of geomorphic surfaces and cultural components at Perry Lake.

Table 7. Cultural affiliation of previously recorded and newly recorded components at Perry Lake.

	PREVIOUSLY RECORDED		NEWLY RECORDED		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
Multicomponent						
Plains						
Archaic	9	4.2	3	6.1	12	4.6
Plains Woodland	111	51.9	4	8.2	115	43.7
Plains Village	21	9.8	4	8.2	25	9.5
Historic Aboriginal	1	0.5			1	0.4
Historic Euroamerican	7	3.2	33	67.3	40	15.2
Unknown						
Prehistoric	65	30.4	5	10.2	70	26.6
TOTAL	214	100.0	49	100.0	263	100.0

The Plains Woodland period at Perry Lake is represented almost exclusively by Grasshopper Falls phase components, estimated to date between A.D. 500 and A.D. 1000 (Reynolds 1981). Earlier Kansas City Hopewell material has been recovered from excavations at 14JF312 but could not be stratigraphically separated from the later Grasshopper Falls phase Woodland materials at the site (Witty 1983). The majority of the Woodland components in the project area are probably affiliated with the Plains Woodland Grasshopper Falls phase. Excavations by the Kansas State Historical Society (Reynolds 1979, Witty 1983) indicate that Grasshopper Falls phase sites are characterized by oval mud and grass covered frame structures ranging from 11-80 sq m in size. Associated features include extra-mural limestone rock hearths and shallow trash filled pits. Diagnostic artifacts include smoothed, brushed or cordmarked, grit tempered Grasshopper Falls ware, small to medium sized corner-notched and small stemmed projectile points and a variety of other chipped and ground stone tools. Only one radiocarbon date of A.D. 760 ± 90 (from 14JF331) has been obtained from the excavated Grasshopper Falls phase sites at Perry Lake (Reynolds 1979). This temporal placement of the Grasshopper Falls phase is supported by a date of A.D. 650 ± 60 years recently recovered from 14NT2 located north of the Perry Lake Project area (Williams 1986).

The Plains Village period in the Perry Lake area is represented primarily by the Pomona focus. Excavations at sites 14JF303 and 14JF328 along Walnut Creek have provided most of the data on this complex in the project area. Pomona dwellings appear to have been pole framed structures plastered with clay and thatch. Ceramics consist primarily of cordmarked grog tempered globular vessels. Projectile points include small triangular notched and unnotched arrow points along with a number of larger dart points. Radiocarbon dates from the Keen site (14JF303) include dates of 550±110 and 350 B.P. (A.D. 1400 and 1600), although Witty (1983) considers these dates to be too recent and suggests the site was occupied at about A.D. 900 to 1200. The recovery of Mississippian Platte Valley ware sherds from the site is suggestive of contact between the Pomona occupants and Mississippian Steed Kisker populations to the east in the Kansas City area. Mississippian influenced ceramics were also recovered from 14JF366 (Witty 1982).

A few Plains Village sites in the project area have produced evidence of Central Plains tradition complexes. These include 14JF329 where collared sand tempered sherds were recovered and 14JF426, where a cordmarked vessel with an incised collar was recovered (Witty 1982). Central Plains Tradition ceramics have also been recovered from 14JF423 by Milton Reichart. These ceramics indicate an affiliation with either the Smoky Hill phase located to the west or the Nebraska phase, located to the northeast, for these sites. Small triangular points were recovered from sites 14JF105, 14JF320 and 14JF418 during the 1985 survey indicating a Plains Village cultural affiliation for these sites.

The project area was peopled during this early Historic period by the Kansa Indian tribe. The first American expedition to come near the project area was that of Lewis and Clark in 1804-1806, after the Louisiana Purchase. About 1805, Daniel Morgan Boone, son of the famous Kentucky frontiersman, explored the region. After the 1825 Treaty between the U.S. and the Kansa Indians, Boone became the first Euro-American settler in Jefferson County, when he was appointed an agent to the tribe. His son Napoleon was the first white child born in the county. Reverend Isaac McCoy was instrumental in resettling the Delaware and other Indian tribes to Kansas in 1829. He is also credited with establishing several missions and schools in Kansas. Many early trails and roads transversed the Perry Lake area. The most famous of these were the Santa Fe and Oregon Trails. But there were other important ones including the Mormon Trail, the Fort Leavenworth to Fort Riley military road, the Leavenworth and Pike's Peak Express road, and the Butterfield stage line.

After Kansas became an organized territory in 1854, it became embroiled in the bitter struggle between pro-slavery and anti-slavery forces that helped precipitate the Civil War. Jefferson County was home to both factions and was the scene of several skirmishes in the Bleeding Kansas era. Also, "Buffalo Bill" Cody lived for a time in the county during this territorial period. The oldest settlement of the project area is Ozawkie (1854) and the largest is Valley Falls founded in 1856 as Grasshopper Falls on the Delaware (Grasshopper) River.

The period from 1870-1900 in Jefferson County and Kansas was one

which experienced a number of economic, environmental, cultural and political disruptions. The years 1874-75 saw grasshopper plagues. In 1872, a major flood destroyed crops and in 1875 severe winds damaged crops and structures. The late 1880s saw a hard economic crash, which, coupled with a mounting drought, led to a depression and many farm foreclosures. The agricultural problems of the latter part of the nineteenth century in Kansas led to the rise of the Populist party and political reforms in the state and county.

Jefferson County has seen many changes in the twentieth century: the advent of telephones, electricity, and the automobile changed rural life forever. The county's economic base remains embedded in agriculture today with grass and cattle dominant. The area has weathered the ups and downs of agricultural cycles fairly well over the years and the discovery of underground gas produced another income source. In 1967, construction was completed on the Perry dam on the Delaware River and today Perry Lake is a multi-purpose recreation and flood control project.

A total of 40 Historic Euroamerican sites have been recorded in the Perry Lake project area. Over 80 percent of these were recorded during the 1985 survey. Also one previously recorded Historic Aboriginal site (14JF367) is located in the project area. This site was the location of a mid-nineteenth century Historic probable Delaware Indian village.

SETTLEMENT PATTERNS

As noted above, the Paleo-Indian period in the project area is poorly known and is represented by only a few isolated finds, mainly Plainview and Dalton points. Since these points have been recovered from gravel bars along the Delaware River the settlement patterns of these early occupants remains unknown. In western Missouri, Chapman (1975) and Shippee (1964) have suggested that Paleo-Indian groups were highly mobile and established temporary camps on hilltop overlooks. Chapman (1975) also suggested that the Paleo-Indian inhabitants of the region may have occupied lowland terraces and floodplains but evidence for such sites may have been destroyed or buried by Early Holocene erosion. The points recovered from gravel bars were probably originally associated with such sites.

With completion of the 1985 survey at Perry Lake a total of 12 Plains Archaic components have been recorded in the project area (Table 8). All of the Archaic sites are located to the north of Little Slough Creek (Figure 19). All Plains Archaic sites are located along the Delaware River except for sites 14JF303 and 14JF417, which are situated on the smaller tributary valleys of Walnut and Peter Creeks. The majority (41.7 percent) are located on upland terrain, although a significant number (33.3 percent) are situated within the Delaware River floodplain and a smaller number (16.7 percent) occur on high terraces overlooking the Delaware River.

Table 8. Distribution of archaeological components at Perry Lake by geomorphological terrain type and soil type.

	FLOODPLAIN (Kennebec Soil)	LOW TERRACE (Reading & Wabash Soil)	HIGH TERRACE (Gymer Soil)	UPLANDS (Martin, Morrill), Oska, Shelby Sogn, Vinland Soils)	UNKNOWN	TOTAL	PERCENT	
	NO.	%	NO.	%	NO.	%	NO.	%
Plains Archaic	4	33.3	1	8.3	2	16.7	5	41.7
Plains Woodland	28	24.3	9	7.8	7.8	51	44.3	18
Plains Village	8	32.0	2	8.0	1	4.0	9	36.0
Historic Aboriginal	1	100						
Historic Euroamerican	3	7.5	4	10.0	5	12.5	27	67.5
Unknown Prehistoric	20	28.6	4	5.7	3	4.3	30	42.8
TOTAL	64	24.3	20	7.6	20	7.6	122	46.4
							37	14.1
								263

None of the Plains Archaic sites at Perry Lake have been intensively investigated and the specific types of occupations represented can only be inferred from limited data. However, some differences in the intensity of occupation at Archaic sites was noted during the 1985 survey. For instance, 14JF414 is a large upland multicomponent site which appears to have been a base camp, perhaps occupied over a considerable period of time, where a wide range of activities were performed. It is also possible that the site represents a series of repeated overlapping occupations of shorter duration which would have also resulted in the high density of cultural debris. In contrast, 14JF417 appears to have been a less intensively occupied upland residential camp where maintenance and extractive tasks predominated. At 14JF320 the Archaic component is represented by only a single projectile point. More intensive investigation of this site and other Late Archaic sites in the area will be required before the function and range of Archaic site types can be documented. However, the differences between these sites does indicate that Archaic base camps, residential camps and special purpose or extractive camps are present in the project area.

The most extensive prehistoric occupation of the Delaware River valley in the Perry Lake project area is represented by the 115 Plains Woodland components (Table 8). As noted above, the majority of these sites are associated with the Grasshopper Falls phase. The better known Grasshopper Falls phase settlements consist of small isolated hamlets located on low terraces of the Delaware and its tributaries (Reynolds 1981). Two of the sites investigated during the 1985 investigations at Perry Lake (14JF450 and 14JF477) appear to represent this settlement type. However, other sites, such as 14JF38, 14JF44 and 14JF54 and others appear to be more briefly occupied residential camps or special use sites rather than long term base camps. At present, little is known about these smaller sites and their role in overall Grasshopper Falls phase settlement patterns.

Although the majority of the Plains Woodland sites at Perry Lake are located along smaller tributaries of the Delaware River, they occur throughout the project area (Figure 19). In the northern portion of the Perry Lake project area most of the Plains Woodland sites are concentrated in the smaller stream valleys such as Walnut and Peter Creeks in the vicinity of Valley Falls. Further to the south, below the Little Slough Creek valley, a large number are present along the former channel of the Delaware River, especially along the eastern shore of Perry Lake. Closer to Perry Dam most of the Plains Woodland sites are located in the mid to upper reaches of the Slough and Rock Creeks. Overall, this pattern suggests a preference for the location of sites in the smaller tributary drainages during the Plains Woodland period. Those sites situated along the Delaware are generally located in close proximity to the confluence of the Delaware and small tributaries. These locations would have provided easy access to both upland and lowland resources.

The majority of the Plains Woodland components in the project area are located in the upland terrain (41.7 per cent), although a significant number are on high terraces (7.8 per cent), on floodplains

(24.3 per cent) and low terraces (7.8 per cent). The number of floodplain sites is probably underrepresented since 18 (15.7 percent Plains Woodland component are inundated by Perry Lake and the specific surfaces they were located on is unknown. Most of these sites were probably located on floodplain or low terrace land forms. Therefore there appears to have been a nearly equal division of upland and lowland Plains Woodland occupations in the area.

A total of 25 Plains Village sites have been recorded in the Perry Lake project area (Table 7). These sites are widely dispersed throughout the area (Figure 19). All but six sites are located in small tributary valleys and generally occur in small clusters of two or three sites. The remaining six are located along the Delaware River, and for the most part, are located across from the confluence of the river and smaller tributaries.

The location of Plains Village sites is nearly evenly divided between upland and lowland terrain (Table 8). A total of 36 percent of the sites are on upland terrain, 4 percent on the high terraces, 8 percent on low terraces and 32 percent on floodplain terrain. Twenty percent of the sites occur on inundated land, which could not be classified according to terrain type, but which probably consists of lowland low terrace and floodplain terrain. Thus the Plains Village settlement patterns were focused on lowland locations, perhaps as a result of the need for land suitable for horticulture.

Only one Historic Aboriginal site, 14JF367, has been recorded, and little can be said regarding the late aboriginal settlement patterns of the Perry Lake area. A small number of "Indian Villages" including 14JF105 and 14JF367 were located in the project area according to the 1856 GLO Survey, however historic artifacts dating to this period have not been recovered at these sites. In addition to the "Indian Villages" a number of "Indian Trails" are also noted on the 1856 survey maps. Andreas (1883) also reported the presence of an Indian scaffold burial in the vicinity of Valley Falls, Kansas but discussed little else about the aboriginal inhabitants of the area.

The Historic Euroamerican occupation of the Perry Lake area began in the 1850's and includes both early townsites such as Ozawkie, Pleasant Hill and Valley Falls as well as numerous farmsteads. With the completion of the 1985 survey, a total of 40 Historic Euroamerican components have been recorded in the project area (Table 7). The large majority of the historic sites are situated on upland terrain (67.5 per cent) or high terraces (12.5 per cent). In contrast few historic sites are located on floodplains (7.5 per cent) or low terraces (10.0 per cent). This distribution suggests that most Euroamericans settled the high ground to avoid flooding which was severe in the area prior to the construction of the Perry Lake Dam.

Although distributed throughout the project area, most of the historic sites are situated along the Delaware River or its major tributaries adjacent to the confluence of these streams and smaller intermittent streams (Figure 19). These locations would have provided access to bottomlands suitable for farming. They would have been

suitable locations for wells and would have been protected from floods.

SUMMARY AND RECOMMENDATIONS

Over the past 30 years a substantial body of information on the archaeology of Perry Lake has accumulated. The general direction of recent federally funded research has been away from "salvage" archaeology and towards the management of the cultural resources and has focused on the location, identification, evaluation and preservation of significant cultural resources. The National Register of Historic Places has played a central role in the development of this trend and forms the centerpiece of current cultural resource management. Sites which are determined eligible for nomination to the National Register warrant preservation or mitigative actions for adverse impacts to the resource.

The 1985 cultural resources survey and testing project at Perry Lake is a direct result of the recommendations made in the Preliminary Management Plan for Perry Lake (Iroquois Research Institute 1977) and the results of a preliminary shoreline survey (Witty 1982). A summary of previous management recommendations, the results of the 1985 investigations and the recommendations for future cultural resource management for the Perry Lake area are presented below.

The most recent federally funded investigations conducted at Perry Lake prior to the 1985 study consisted of the Preliminary Management Plan prepared by Iroquois Research Institute in 1977 and a sample shoreline survey performed by the Kansas State Historical Society in 1979 (Witty 1982). The management plan provided an inventory of all previously known sites in the project area, a summary of previous cultural resource management studies, a preliminary history of the project area and field inspection of 12 percent of the documented archaeological sites. Recommendations for future archaeological work were provided on a site by site basis and recommendations were made for additional survey in the project area. Recommendations were outlined for the long term management of cultural resources and suggestions were provided for the development of public interpretive programs. Areas recommended for additional survey included the entire 110 mile perimenter of the shoreline and four areas of the project area where previous surveys appeared to be incomplete. The later areas included 9570 acres located along the Rock Creek arm of the lake and between the towns of Ozawkie and Valley Falls along the main stem of Perry Lake.

The first step in implementing these recommendations consisted of the 1979 sample inventory of 20 miles of the Perry Lake shoreline between the elevations of 891.5 and 900 ft above msl. The survey resulted in the location of ten previously unrecorded sites and four previously recorded sites. Eleven of the sites had Plains Woodland Grasshopper Falls phase components. One site, 14JF366, appeared to be multicomponent with both Grasshopper Falls phase and later Plains Village components represented. Although all of the sites were severely

damaged by shoreline erosion, testing was recommended at sites 14JF34 and 14JF320, and resurvey was recommended for 14JF366. No further work was recommended for the other ten sites.

The 1985 investigations at Perry Lake were a result of the implementation of the recommendations of the 1977 management plan and the results of the 1982 Kansas State Historical Society survey. These investigations resulted in the location and preliminary evaluation of 50 sites as well as the National Register Testing at three sites. Summary data for the 53 sites investigated including their cultural affiliation, topographic position, potential adverse threats, and recommended mitigative actions as well as National Register Recommendations are presented in Table 9. Twenty-three of the sites (14JF101 through 14JF123) were located during the course of the 1985 survey. The other 30 sites were previously recorded. The 1985 investigations conducted at these 53 sites resulted in the determination that 35 sites (14JF3, 14JF34, 14JF35, 14JF36, 14JF50, 14JF66, 14JF101, 14JF102, 14JF104, 14JF106, 14JF107, 14JF108, 14JF110, 14JF111, 14JF113, 14JF114, 14JF115, 14JF116, 14JF117, 14JF119, 14JF120, 14JF121, 14JF122, 14JF123, 14JF314, 14JF320, 14JF366, 14JF415, 14JF418, 14JF451, 14JF462, 14JF471, 14JF472, 14JF473, 14JF483) lacked sufficient content and integrity to be eligible for the National Register. Based on these determinations no mitigative actions are recommended for these sites. Eighteen sites (14JF38, 14JF44, 14JF54, 14JF103, 14JF105, 14JF109, 14JF112, 14JF118, 14JF414, 14JF417, 14JF423, 14JF450, 14JF452, 14JF454, 14JF464, 14JF465, 14JF477, 14JF484) are recommended for more intensive National Register testing. Until further testing can be performed at these sites action should be taken to prevent further destruction of these cultural resources.

Future National Register testing at Perry Lake should be prioritized according to land use and the degree of the potential threat of destruction by erosion, cultivation or development of lake facilities. The sites which require National Register testing should be tested on a priority basis depending upon their potential threat for imminent destruction. Since the sites located along the shore of Perry Lake will be subjected to continuous wave action and periodic inundation they should receive the highest priority for future testing.

After the sites along the shore have been tested, those within agricultural areas should be tested. Sites such as 14JF105, 14JF414 and 14JF423 should receive a high priority since they offer the potential for adding significant information on the Plains Archaic and Plains Village periods. Data on both of these cultural periods is sorely lacking in the project area.

It is also recommended that the 11 previously recorded sites not relocated in the 1985 survey be resurveyed under more optimal conditions. These include sites 14JF12, 14JF43, 14JF55, 14JF56, 14JF326, 14JF419, 14JF467, 14JF468, 14JF469, 14JF470 and 14JF486. The flooding and dense vegetation encountered during the summer of 1985 probably obscured the cultural remains present at some of these sites. Others may have been destroyed. Additional reconnaissance should be conducted when the lake is low and during seasons when visibility is

Table 9. Topographic position, soil type, cultural affiliation, inferred site function, significance and National Register recommendation for sites located in the Perry Lake Survey.

SITE NUMBER	TOPOGRAPHIC POSITION	SOIL SERIES	CULTURAL AFFILIATION	INFERRRED ACTIVITY	SIGNIFICANCE IN RELATION TO REGIONAL RESEARCH PROBLEMS		NATIONAL REGISTER RECOMMENDATION
					SITE LACKS CONTENT AND SUBSURFACE INTEGRITY. ARTIFACTS RECOVERED FROM DISTURBED SHORELINE CONTENT		
14JF3	High Terrace	Gymer	Unknown Prehistoric	Limited use	+ Site lacks content and subsurface integrity. Artifacts recovered from disturbed shoreline content	+ +	NOT ELIGIBLE/TESTING
14JF34	Uplands	Martin	Historic Euroamerican Plains Woodland	Farmstead Habitation	Site lacks subsurface integrity.	+ +	+
14JF35	Uplands	Martin	Plains Woodland	Camp	Site lacks content and subsurface integrity.	+ +	+
14JF36	Uplands	Martin	Historic Euroamerican	Farmstead, Camp	Site lacks content and subsurface integrity.	+ +	+
14JF38	Low Terrace	Reading	Historic Euroamerican Plains Woodland	Farmstead Camp	Potential for intact deposits within the Plains Woodland component.	+ +	+
14JF44	Uplands	Martin	Historic Euroamerican Plains Woodland	Farmstead, Camp	Potential for intact deposits within the Plains Woodland component.	+ +	+
14JF50	Low Terrace	Reading	Historic Euroamerican Plains Woodland	Farmstead, Camp	Site lacks content and subsurface integrity	+ +	+

continued

Table 9 continued. Topographic position, soil type, cultural affiliation, inferred site function, significance
National Register recommendation for sites located in the Ferry Lake Survey.

SITE NUMBER	TOPOGRAPHIC POSITION	SOIL SERIES	CULTURAL AFFILIATION	INFERRRED ACTIVITY	SIGNIFICANCE IN RELATION TO NATIONAL RESEARCH PROBLEMS	NATIONAL REGISTER RECOMMENDATION	
						POTENTIAL FOR INTACT DEPOSITS	NOT ELIGIBLE/TESTING +
14.JF54	Low Terrace	Wabash	Plains Woodland	Camp			
14.JF66	Low Terrace	Kennebec	Unknown Prehistoric	Camp	Site has been completely destroyed by borrow pit.		
14.JF101	Low Terrace	Wabash	Historic Euroamerican	Recent dump	Site lacks content and subsurface integrity		
14.JF102	Uplands	Shelby-Pawnee	Unknown Prehistoric	Limited use	Site lacks content and subsurface integrity.		
14.JF103	Uplands	Shelby-Pawnee	Unknown Prehistoric	Camp	Site has the potential for intact deposits.		
14.JF104	Low Terrace	Kennebec	Historic Euroamerican	Farmstead	Site lacks content and subsurface integrity.		
14.JF105	Uplands	Shelby-Pawnee	Plains Village	Habitation	Site is in area of recorded "Indian Village". Has potential for intact deposits.		
14.JF106	Uplands	Vinland	Historic Euroamerican	Farmstead	Site disturbed and of limited content.		
14.JF107	Uplands	Martin	Historic Euroamerican	Farmstead	Site disturbed, lacks content and subsurface integrity.		

continued

Table 4 continued. Topographic position, soil type, cultural affiliation, inferred site function, significance and National Register recommendation for sites located in the Perry Lake Survey.

SITE NUMBER	TOPOGRAPHIC POSITION	SOIL SERIES	CULTURAL AFFILIATION	INFERRED ACTIVITY	SIGNIFICANCE IN RELATION TO REGIONAL RESEARCH PROBLEMS		NATIONAL REGISTER RECOMMENDATION
					Farmstead	Site disturbed and of limited content.	
14.FF108	Uplands	Oska	Historic Euroamerican	Farmstead	Site disturbed but has potential for intact deposits.	+ +	
14.FF109	Uplands	Vinland	Historic Euroamerican	Farmstead	Site disturbed, lacks content and subsurface integrity.	+ +	
14.FF110	Uplands	Vinland	Historic Euroamerican	Farmstead	Site disturbed, lacks content and subsurface integrity.	+ +	
14.FF111	High Terrace	Gymer	Historic Euroamerican	Farmstead	Site disturbed, lacks content and subsurface integrity.	+ +	
14.FF112	Uplands	Vinland	Historic Euroamerican	Farmstead	Partially intact foundation remains. Potential for intact deposits.	+ +	
-	Fills	Uplands	Vinland	Historic Euroamerican	Farmstead	Site disturbed, too recent for eligibility.	+ +
14.FF114	Uplands	Martin	Historic Euroamerican Unknown	Farmstead, Camp	Historic component disturbed. Prehistoric component has potential for intact deposits.	+ +	
14.FF115	Uplands	Martin	Historic Euroamerican	Farmstead	Site disturbed, lacks subsurface integrity.	+ +	
14.FF116	High Terrace	Gymer	Historic Euroamerican	Farmstead, Pleasant Hill townsite	Site disturbed, lacks subsurface integrity and has limited content.	+ +	

continued

Table 3. Site information, geographical position, site type, cultural affiliation, inferred site function, significance and National Register recommendation for sites located in the Jerry Lake Survey.

NUMBER [L.F.]	GEOREGIONAL POSITION	SITES SITES	CULTURAL AFFILIATION	INTERPRETATION ACTIVITY	SIGNIFICANCE IN RELATION TO REGIONAL PROBLEMS		RECOMMENDATION NOT FURTHER TESTING	NATIONAL REGISTER ELIGIBILITY/TESTING
					Site disturbed,	lack subsurface integrity		
14-118	High Terrace	Grymer	Historic Euroamerican Unknown	Farmstead, prehistoric isolated find				+
14-119	Low Terrace	Reuding	Historic Euroamerican	Townsite of Ozaukee	Potential for intact subsurface deposits.			+
14-120	Uplands	Vinland	Historic Euroamerican Unknown	Farmstead, camp prehistoric	Site is disturbed and lacks subsurface integrity.	+		
14-121	Uplands	Span- Vinland	Historic Euroamerican	Farmstead	Site is disturbed and lacks subsurface integrity.	+		
14-122	Uplands	Vinland	Historic Euroamerican	Farmstead	Site disturbed, lacks content and subsurface integrity	+		
14-123	Uplands	Sogr- Vinland	Historic Euroamerican	Farmstead	Site disturbed and lacks subsurface integrity.	+		
14-124	Uplands	Pawer	Historic Euroamerican	Farmstead	Site disturbed and lacks subsurface integrity.	+		
14-125	Uplands	Vinland	Unknown prehistoric	Limited use	Site disturbed, lacks content and subsurface integrity.	+		
14-126	High Terrace	Grymer	Plains Village Plains Woodland Plains Archaic	Camp	Site largely destroyed by erosion. Contains minimal poorly preserved deposits.	+		

continued

Table 9 (continued). Topographic position, soil type, cultural affiliation, inferred site function, significance and National Register recommendation for sites located in the Perry Lake Survey.

SITE NUMBER	TOPOGRAPHIC POSITION	SOIL STRIDES	CULTURAL AFFILIATION	INFERRED ACTIVITY	SIGNIFICANCE IN RELATION TO REGIONAL RESEARCH PROBLEMS		NATIONAL REGISTER RECOMMENDATION
					Site destroyed by erosion	NOT ELIGIBLE/TESTING	
141F366	Uplands	Vinland	Plains Village Plains Woodland	Camp	+ lacks subsurface integrity.	+ +	
141F414	Uplands	Pawnee	Historic Euroamerican Plains Village Plains Archaic	Farmstead, Base Camp or village	Site partially destroyed by erosion and agriculture but contains some area of intact deposits.	+ +	
141F415	Uplands	Shelby-Pawnee	Historic Euroamerican Plains Woodland	Farmstead, Camp	Site lacks content and subsurface integrity.	+ +	
141F417	Low Terrace	Reading	Plains Woodland Plains Archaic	Farmstead	Site has potential for subsurface deposits.	+ +	
141F418	Uplands	Pawnee	Plains Village	Special use	Site is disturbed, lacks and subsurface integrity.	+ +	
141F423	Low Terrace	Kennebec	Historic Euroamerican Plains Village	Farmstead Habitation	Site contains intact pre- historic habitation feature.	+ +	
141F450	High Terrace	Cymer	Plains Woodland	Habitation	Site has the potential for intact deposits.	+ +	
141F451	Uplands	Vinland	Historic Euroamerican Plains Woodland	Farmstead Camp	Site is disturbed, lacks content and subsurface integrity.	+ +	

continued

Table 9 continued. Topographic position, soil type, cultural affiliation, inferred site function, significance and National Register recommendation for sites located in the Perry Lake Survey.

SITE NUMBER	TOPOGRAPHIC POSITION	SOIL SERIES	CULTURAL AFFILIATION	INFERRED ACTIVITY	SIGNIFICANCE IN RELATION TO REGIONAL RESEARCH PROBLEMS			NATIONAL REGISTER RECOMMENDATION NOT FURTHER ELIGIBLE/TESTING
					Farmstead	Camp	Site has potential for intact prehistoric component.	
14.JF452	Uplands	Vinland	Historic Euroamerican					+
			Plains					
			Woodland					
14.JF454	Uplands	Shelby-Pawnee	Unknown Prehistoric	Special Use			Site has potential for intact deposits.	+
14.JF462	Uplands	Vinland	Plains Woodland	Camp			Site is disturbed, lacks content.	+
14.JF464	High Terrace	Gymer	Plains Woodland	Camp			Site has potential for intact deposits.	+
14.JF465	Uplands	Vinland	Plains Woodland	Camp			Site has potential for intact deposits.	+
14.JF471	Uplands	Shelby-	Plains Woodland	Special Use			Site lacks content and subsurface integrity.	+
14.JF472	Uplands	Vinland	Historic Euroamerican	Farmstead			Site disturbed and lacks subsurface integrity.	+
			Plains	Camp				
			Woodland					
14.JF473	High Terrace	Gymer	Historic Euroamerican	Farmstead			Site disturbed and lacks subsurface integrity.	+
			Plains	Camp				
			Woodland					

Table 9 continued. Topographic position, soil type, cultural affiliation, inferred site function, significance and National Register recommendation for sites located in the Perry Lake Survey.

SITE NUMBER	TOPOGRAPHIC POSITION	SOIL SERIFS	CULTURAL AFFILIATION	INFERRRED ACTIVITY	SIGNIFICANCE IN RELATION TO REGIONAL RESEARCH PROBLEMS		NATIONAL REGISTER RECOMMENDATION
					Site has potential for intact deposits.	NOT FURTHER ELIGIBLE/TESTING	
14JF477	High Terrace	Gymer	Plains Woodland	Habitation		+	
14JF483	Uplands	Shelby-Pawnee	Historic Euroamerican Plains Archaic	Farmstead Camp	Site disturbed and lacks subsurface integrity.	+	
14JF484	Uplands	Shelby-Pawnee	Historic Euroamerican Plains Woodland	Farmstead Camp	Site contains partially intact prehistoric component.	+	

optimal. The resurvey of these sites should provide a preliminary assessment of their National Register status and determine whether further archaeological work is warranted.

A number of research questions can be addressed by future research at Perry Lake including the testing recommended for the sites discussed above. This research should focus on the research goals outlined in this report including further refinement of the cultural chronology of the project area, development of an understanding of site function and settlement and subsistence patterns and development of a more refined model of the terrace sequence and alluvial chronology of the Delaware River valley. There is almost no substantive information available about the Paleo-Indian and Archaic occupations of the Perry Lake area. Although previous investigations have not been very successful in locating older sites in the Perry Lake area, this goal can probably be accomplished by an examination of landforms and sediments of the proper age which have been identified in this study. Five Archaic sites investigated in 1985 including 14JF320, 14JF414, 14JF417, 14JF483 and 14JF484, represent a significant portion of the total number of known Archaic components in the project area. To date, no Archaic sites have been radiocarbon dated and the absolute dating of these sites is an important research goal.

Archaic sites 14JF320, 14JF414, 14JF417 and 14JF493 have produced artifacts diagnostic of the Late Archaic Munkers Creek or Black Vermillion phases. The Black Vermillion phase has been dated at sites along the Big Blue river drainage in the Tuttle Creek Lake vicinity to between 4500-5300 years B.P. (Schmits 1981). Additionally, a Late Archaic El Dorado phase component (ca. 3000-4000 B.P.) may be present at the Ecen Site (14JF303). Further National Register testing of sites 14JF414, 14JF417 and 14JF484 will hopefully provide data needed to more firmly establish the Archaic cultural sequence in the project area.

Although a large number of Plains Woodland Grasshopper Falls phase and four Plains Village Pomona focus sites have been located in the Perry Lake area and a number have been intensively investigated, only three radiocarbon dates are available. The lack of adequate dating of these sites precludes an understanding of the relationship between these two cultural complexes of their relationship to neighboring Plains Woodland and Plains Village cultural units. An objective of future Perry Lake investigations should be to obtain additional radiocarbon dates from Plains Woodland and Plains Village sites.

The majority of the 115 Plains Woodland sites in the project area are affiliated with the Grasshopper Falls phase (Reynolds 1979, Witty 1983). Although the Grasshopper Falls phase has been estimated to date between A.D. 500 and A.D. 1000 only two radiocarbon dates of A.D. 600 ± 60 and 760 ± 60 have been obtained from Grasshopper Falls phase components. The majority of the sites have been assigned to the phase on the basis of diagnostic artifacts. There is an obvious need for more radiocarbon dates from the Grasshopper Falls phase components. A tighter chronological control for this complex will allow more detailed comparisons with contemporaneous ceramic traditions in eastern Kansas. An understanding of the relationships between the Grasshopper Falls

and neighboring Woodland cultural units is a major goal for future research in the project area.

Further National Register test investigations have been recommended for nine Plains Woodland sites investigated in 1985 including 14JF38, 14JF54, 14JF417, 14JF450, 14JF464, 14JF465, 14JF477 and 14JF484. Three of these sites (14JF38, 14JF44 and 14JF417) are multicomponent. The additional testing at these sites will hopefully provide sufficient samples of datable materials to more firmly establish the chronological position of the Grasshopper Falls phase.

A total of 25 Plains Village sites are located in the project area including six located in the 1985 project area (14JF105, 14JF366, 14JF414, 14JF418 and 14JF423). Of these sites 14JF105, 14JF414 and 14JF423 have been recommended for further testing. Most of these sites are Pomona focus components. On the basis of excavations at 14JF303 and 14JF328, Witty (1983) suggested that the Pomona occupation of the Perry Lake area dates from about A.D. 900 to A.D. 1200, although later radiocarbon dates of A.D. 1400 and A.D. 1600 were recovered from 14JF303. A smaller number of Plains Village sites also indicate the presence of Central Plains Tradition populations in the project area including 14JF329, where collared sand tempered ceramics were obtained, and 14JF426, where a cordmarked vessel with an incised collar was recovered (Witty 1982). Central Plains Tradition ceramics have also been recovered from 23JF423. The exact cultural affiliation of these sites is unknown and they may be related to either the Smoky Hill phase or the Nebraska phase. The establishment of the chronological placement of the Plains Village Tradition sites at Perry Lake and their relationships to other Plains Village complexes remains an important area of future research.

The historic archaeology of the Perry Lake project area is virtually unknown. Prior to the 1985 investigations only seven Historic Euroamerican components were recorded in the project area. As a result of the 1985 survey this total has been increased to 40. The 35 historic components investigated in 1985 included 30 farmsteads, two historic townsites and one recent dump. The majority of the farmsteads date to the late nineteenth and early twentieth centuries and are largely destroyed. Only two farmsteads 14JF109 and 14JF112 and the historic townsit of Ozawkie (14JF118) are recommended for further test excavations. 14JF109 and 14JF112 are better preserved than the majority of the Historic farmsteads in the project area. Both contain areas of intact subsurface deposits and were settled relatively early. As such they have the potential to provide information on the rural farming economy as well as its relationships to the larger economy of late nineteenth century America. These sites may provide data on trade patterns and the degree of self sufficiency required to survive the rigours of early settlement. As noted by Schockley (this volume) the period between 1870-1900 in Jefferson County was one which experienced a number of economic, environmental, cultural and political disruptions including grasshopper plagues, floods, drought and the economic crash of the 1880s. The impact of these events on farming communities may be investigated by further investigations at these sites.

The early townsite of Ozawkie provides a unique opportunity to investigate an early frontier town in Jefferson County. Settled in 1854, Ozawkie played a prominent and important role in the early history of the project area. Although the town was destroyed prior to lake development, the foundations of several buildings are exposed along the shoreline indicating that structural remains are intact. Further testing including archival research will be required to determine whether earlier portions of the town remain and whether the site is National Register eligible.

Future work at Perry Lake should also concentrate on identifying the function of the various sites investigated. While this study has accomplished much in terms of identifying settlement patterns, the function of most sites is either unknown or poorly understood. Future work should concentrate on obtaining sufficient information so that meaningful statements can be made regarding settlement patterns.

As noted above, none of the Plains Archaic sites at Perry Lake have been intensively investigated and the specific types of occupations represented can only be inferred from limited data. For instance 14JF414 appears to be a large upland base camp where a variety of subsistence related tasks were performed. Given the density of debris encountered on the surface, the site appears to have been intensively occupied over a relatively long period, or more likely repeatedly occupied on a seasonal or perhaps shorter term basis. In contrast, the Archaic occupations at 14JF417 and perhaps at 14JF484 appear to have been less intensively occupied residential camps where maintenance and extractive tasks predominated. Further testing of these sites should determine the validity of these preliminary statements regarding the types of sites present at Perry Lake.

Reynolds (1981) has characterized the Grasshopper Falls phase settlement pattern as essentially sedentary, but with little dependence on horticulture for subsistence. The predominant settlement type consists of small clusters of houses, or individual houses on terraces adjacent to secondary drainages. Habitational structures are small oval structures constructed of daub and grass placed over a light pole framework with extramural hearths. Three sites 14JF450, 14JF477 and 14JF484 investigated in 1985 appear to represent the settlement type identified by Reynolds. However, other sites such as 14JF38, 14JF54, 14JF417 and 14JF464, appear to be more briefly occupied residential camps or special use sites rather than long term base camps. At present, little is known about these smaller sites and their role in the Grasshopper Falls phase settlement patterns. Future investigations at these sites should help clarify their function.

The Plains Village settlement patterns in the Project area are also in need of further research. This is especially true for the Central Plains Tradition sites. One such site (14JF423) has been recommended for further testing and appears to have the potential of providing important data regarding the type of habitational features present at these sites. If a structure is actually present the site will provide important architectural data for Central Plains tradition occupations in the project area.

The historic occupation of the Perry Lake area was intensive. Most of the occupations consisted of small farmsteads, although two townsites were also encountered. Further testing at 14JF109 and 14JF112 will provide additional data on the structure of these turn of the century farmsteads while testing at old Ozawkie (14JF118) should determine whether the earlier portions of the town are still intact.

Based on the geomorphological information obtained in this study, two major landforms in the project area can be expected to contain undisturbed prehistoric archaeological deposits. These are the floodplain deposits and low terraces of the Delaware River and its tributaries. However, at this point in time sufficient data is not available from these landforms to predict the nature and distribution of buried surfaces that may contain prehistoric cultural materials. In order to resolve this limitation, systematic subsurface investigations of Holocene and terminal Pleistocene landforms should be conducted. This should include close interval coring and trenching of floodplain and low terrace deposits. The data gleaned from the subsurface investigation should be used to develop a geomorphologically based predictive model for locating buried archaeological sites in the project area. This model should stress site location for different cultural periods as it relates to the specific landform types.

REFERENCES

- Adams, Henry
1856 Kansas land plat surveys, field notes, Exterior vols.
2-12. On file at the Kansas Secretary of State's office,
Topeka.
- Andreas, A. T.
1883 History of the state of Kansas, Chicago.
- Ahler, S. A.
1979 Functional analysis of nonobsidian chipped stone
artifacts: terms, variables, and quantification. In
Lithic use-wear analysis, edited by B. Hayes.
Academic Press, New York, pp. 301-328.
- Baldwin, J. K.
1973 A Collector's Guide to Patent and Proprietary Medicine Bottles of the Nineteenth Century. Thomas Nelson,
Nashville.
- Barry, Louis
1954 Kansas Before 1854: A Revised Annals. Kansas Historical Quarterly. XXXIII.
- Bass, William M., Dick McWilliams, and Bruce A. Jones
1967 Archaeological investigations at five sites in Lyons,
Jefferson, and Phillips counties, Kansas. Museum of
Anthropology, University of Kansas, Lawrence.
- Bates, Elmer
1954 The Story of Perry, Kansas. (Prepared for the Perry
Centennial). July.
- Bates, Mabel
1954 A Brief History of Jefferson County. Perry Mirror-McLouth Times. November 9.
- Beck, H. W.
1959 Geology and ground-water resources of the Kansas River
valley between Wamego and Topeka vicinity. Kansas Geological Survey Bulletin 135.
- Bernard, William R.
1905 Westport and the Santa Fe Trade. Kansas Historical Collection. IX.
- Bettinger, Robert L.
1980 Explanatory models of hunter-gatherer adaptation. In
Advances in archaeologist method and theory, Volume 3,
edited by Michael B. Schiffer, Academic Press, New York.

- Binford, Lewis R.
1980 Willow smoke and dog's tails: Hunter-gatherer settlement systems and archaeological site formation. American Antiquity 45:4-28.
- Blackeslee, D.J. and W. W. Caldwell
1979 The Nebraska phase: an appraisal. Reprints in Anthropology, Volume 26, J. and L. Reprint Company, Lincoln, Nebraska.
- Blackmar, Frank W.
1912 Kansas, A Cyclopedia of State History. Chicago.
- Borchert, J. R.
1950 The climate of the central North American grasslands. Annals of the Association of American Geographers. 60:1-39.
- Bowman, Mark W.
1985 A disparity in the rate of lateral channel cutting between two reaches of the Kansas River. Unpublished Masters Thesis, Department of Geology, University of Kansas, Lawrence.
- Brakenridge, G. R.
1981 Late quaternary floodplain sedimentation along the Pomme de Terre river, southern Missouri. Quaternary Research 15(1):62-76.
- Bright, John
1956 Kansas: A Bicentennial History. W.W. Norton and Company, Inc. New York.
- Brown, James A. and Robert K. Vierra
1983 What happened in the Middle Archaic? Introduction to an ecological approach to Koster Site Archaeology. In Archaic hunters and gatherers in the American Midwest, edited by James L. Phillips and James A. Brown, Academic Press, New York.
- Caldwell, William W. and Dale R. Henning
1978 North American Plains. In Chronologies in New World Archaeology, edited by R. F. Taylor. Academic Press, New York.
- Calhoun, J.
1856 Kansas land plat surveys Kansas State Historical Society Archives, role #2, R13E through R22E, AR581, Topeka.
- Chapman, Carl E.
1975 The archaeology of Missouri, University of Missouri Press, I. Columbia, Missouri.

- Cole, Frannie E.
1911 Pioneer Life in Kansas. Kansas Historical Collections.
 XII.
- Davis, Clarke
1985 Fate Sealed at the Falls. Valley Falls Vindicator. July
 18.
- Davis, Kenneth S.
1976 Kansas: A Bicentennial History. W.W. Norton and
 Company, Inc. New York.
- Davis, Stanley W. and W. A. Carlson
1952 Geology and ground-water resources of the Kansas River
 valley between Lawrence and Topeka, Kansas. Kansas
 Geological Survey Bulletin 96(5):201-276.
- Dickey, Harold P., Jerome L. Zimmerman, and Harold T. Rowland
1977 Soil survey of Jefferson County, Kansas. A report by
 the United States Department of Agriculture, Soil
 Conservation Service in cooperation with the Kansas
 Agricultural Experimental Station. U. S. Government
 Printing Office, Washington D.C.
- Dixon, K. A.
1977 Applications of archaeological resources: Broadening the
 basis of significance. In Conservation archaeology,
 edited by M. B. Schiffer and G. J. Gumerman, pp. 177-192.
 Academic Press, New York.
- Donohue, James A. and John M. Parisi
1984 Survey and testing at Pomona Lake. In Archaeological
 inventory and evaluation at Milford, Melvern and Pomona
 Lakes, edited by Larry J. Schmits. Report submitted to
 the U. S. Army Corps of Engineers, Kansas City District.
- Elks, J. E.
1979 Air-photo interpretation of floodplain features: a means
 of determining Kansas River history. Unpublished M.A.
 thesis, Department of Geology, University of Kansas,
 Lawrence.
- Elliott, Richard
1972 Comprehensive County and Sewer Plan for Jefferson County,
 Kansas.
1970 A County Development Plan. (In cooperation with the
 Kansas Economic Development Commission.)
- Everts, L.H.
1887 Atlas of Kansas.

- Fader, Stuart W.
1974 Ground-water in the Kansas River Valley Junction City to Kansas City, Kansas, Kansas Geological Bulletin 206(2): 1-12.
- Fontana, B. L. and J. C. Greenleaf
1962 Johnny Ward's Ranch: a study in historical archaeology. The Kiva 28 (1-2).
- Frye, J. C. and A. B. Leonard
1952 Pleistocene geology of Kansas. Kansas Geological Survey Bulletin 99.
- Frye, J. C. and K. L. Walters
1950 Subsurface reconnaissance of glacial deposits in northeastern Kansas. Kansas Geological Survey Bulletin 86 (6):141-158.
- Gates, William C. and Dana E. Ormerod
1982 The East Liverpool Pottery District: Identification of Manufactureres and Marks. Historical Archaeology 16(2).
- Geil, S. A.
1985 Absolute dating of a terrace along the lower Kansas River. Abstracts of the 4th Annual Symposium of TER-QUA, University of Kansas, Lawrence.
- Glassow, M.
1977 Issues in evaluating the significance of archaeological resources. American Antiquity 42(3): 413-420.
- Godden, G. A.
1964 Encyclopedia of British pottery and porcelain marks. Bonanza Books, New York.
- Grosser, Roger
1973 A tentative cultural sequence for the Snyder site, Kansas. Plains Anthropologist 18(61):228-238.
1977 Late Archaic subsistence patterns from the central Great Plains: a systematic model. Unpublished Ph.D. dissertation, University of Kansas, Lawrence.
- Hodge, Frederick Webb
1912 The handbook of American Indians north of Mexico. Smithsonian Institution Bureau of American Ethnology Bulletin 30, Part I, Washington.
- Holien, C. W.,
1982 Origin and Geomorphic Significance of Channel-bar Gravel of the Lower Kansas River, unpublished Master's thesis, Department of Geology, University of Kansas. 128p.

- Ingersoll, Daniel W.
- 1971 Settlement Archaeology at Paddel Dock. Unpublished Ph.D. Dissertation for the Department of Anthropology. Harvard University, Cambridge, Mass.
- Iroquois Research Institute
- 1977 Preliminary management plan for cultural resources, Perry Lake. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.
- Jewett, J. W., Howard G. O'Conner, and W. J. Seavers
- 1965 Hydrogeology of the lower Kansas River Valley. Field Conference Guidebook, Geological Society of America and Associated Societies, Kansas Geological Survey.
- Jochim, M. A.
- 1976 Hunter-gatherer subsistence and settlement: a predictive model. New York: Academic Press.
- Johnson, Alfred E.
- 1975 Plains Woodland. To appear in a forthcoming Handbook of North American Indians.
- 1983 Late Woodland in the Kansas City Locality Plains Anthropologist 29(106):277:288.
- Johnson, W. C.
- 1985 Revision of terrace chronologies along the Kansas River and tributaries. Abstracts of the 4th Annual Symposium of TER-QUA, University of Kansas, Lawrence.
- Jones, Bruce A.
- 1968 Archaeological investigations in the Perry reservoir, Jefferson county, Kansas, 1965. Report on file at the Midwest Archaeological Center, Lincoln, Nebraska.
- 1976 Phase II Archaeological Survey of Perry Lake Road Improvements 1 and 2, Jefferson County, Kansas. Kansas State Historical Society, Topeka, in fulfillment of Purchase Order No. DACW41-76-M-1435 with the U.S. Army Corps of Engineers, Kansas City District.
- 1978 Archaeological Survey Road Improvement 3, Perry Lake, Kansas. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.
- Kansas State Historical Society
- 1984 Kansas preservation plan, study unit on the Period of Rural/Agricultural Dominance (1865-1900). Historic Preservation Department, Kansas State Historical Society, Topeka.

- Katy, Paul
1976 A technological analysis of Kansas City Hopewell chipped stone industry Ph.D. dissertation. Department of Anthropology, University of Kansas.
- King, T. F.
1975 Cultural resource law and the contract archaeologist: methods of evaluation and reporting. New York Archaeological Council, Buffalo. Knox, J. C.
- 1976 Concept of the graded stream. In theories of landform development, edited by W.N. Melhorn, pp. 173-198. Publications in Geomorphology, State University of New York, Binghamton.
- Kroll, Wayne
1976 Badger Breweries. Waghel-Kroll, Jefferson, Wisconsin.
- Kuchler, A. W.
1964 Potential natural vegetation of the coterminous United States. American Geographical Society, Special Publication 36: 1-38.
- Lee, Ruth Webb
1933 Early American Pressed Glass. Ruth Webb Lee. Framingham Center, Massachusetts.
- Lee, R. B., and I. DeVore (editors)
1969 Kung Bushman subsistence: an input-output analysis. In Contributions to anthropology: ecological essays, edited by D. Damas. National Museums of Canada Bulletin 230:73-94.
- 1976 Kalahari hunter-gatherers. Cambridge, Massachusetts: Harvard University Press.
- Lief, Alfred
1977 A Close-up of closure: History and Progress. Glass Container Manufacturers Institute, New York.
- Lofstrom, Edward U.
1976 A Seriation of Historic Ceramics in the Midwest, 1780-1870. Paper presented at the Joint Plains-Midwest Anthropological Conference, October 22, 1976.
- Logan, Brad
1985 O-Keet-Sha cultural history and its environmental context: the archaeology of Stranger Creek basin, northeastern Kansas. Unpublished Ph.D. Dissertation, Department of Anthropology, University of Kansas, Lawrence.

- Majewski and Michael J. O'Brien
1984 An Analysis of Historical Ceramics from the Central Salt River Valley of Northeast Missouri. American Archaeology Division, Department of Anthropology, University of Missouri-Columbia, Publication No. 3.
- Mandel, Rolfe and Larry J. Schmits
1984 Geomorphology and landscapes in the Milford, Melvern and Pomona Lake areas. In, archaeological inventory and evaluation at Milford, Melvern and Pomona Lakes. Edited by Larry J. Schmits. Report submitted to the U.S. Army Corps of Engineers, Kansas City District.
- Mansberger, Floyd
1981 Report of the Galena-U.S. Route 20 Bridge Replacement Archaeological Study, Jo Daviess County, Illinois. Midwestern Archaeological Research Center, Illinois State University, Normal, Oklahoma.
- Marshall, James O.
1967 Historical Society archaeology in the Perry reservoir, 1967. Kansas Anthropological Association Newsletter 13(4), Topeka.
- Marshall, James O., and Thomas A. Witty, Jr.
1968 Salvage archaeology in the Perry reservoir. Kansas Anthropological Association Newsletter 14(1):1-5, Topeka.
- McCrae, R. O.
1954 Geomorphic effects of the 1951 Kansas River flood. Unpublished M.A. thesis, Department of Geology, University of Kansas, Lawrence.
- McGimsey, C. R., III
1979 The once and future data. American Antiquity 44(3): 583-9.
- Montgomery Ward & Co.
1969 (1895) Catalogue and Buyer's Guide. Reprinted by Dover Publications, Inc. New York.
- Murray, W. A.
1984 Kansas Statistical abstract 1982-83. Center for Public Affairs, University of Kansas, Lawrence.
- Munsey, Cecil
1970 The Illustrated Guide To Collecting Bottles. Hawthorn Books, Inc., New York.
- Newman, T. S.
1970 A dating key for post-eighteenth century bottles. Historical Archaeology pp. 70-75.

- Nickel, Christine
1973 Two archaeological sites in the Perry reservoir region, Jefferson county, Kansas. Unpublished M.A. thesis, Department of Anthropology, Wichita State University, Wichita.
- No Author
1940 Early Jefferson County History. Valley Falls Vindicator, February 28.
- No Author
1940 Early Jefferson County History. Valley Falls Vindicator, March 6.
- No Author
1940 Early Jefferson County History. Valley Falls Vindicator, March 20.
- No Author
1940 Early Jefferson County History. Valley Falls Vindicator, April 3.
- No Author
1940 80 years in One County. Valley Falls Vindicator, May 15.
- No Author
1976 History of Grantsville, Kansas 1854-1976. Ives and Sons, Inc. Topeka.
- No Author
No date Old Settlers Reunion, Counties of Atchison and Jefferson. Nortonville.
- No Author
1890 Portrait and biographical album of Jackson, Jefferson, and Pottawatomie Counties, Kansas. Chapman Bros., Chicago.
- No Author
1955 The first hundred years of Jefferson County, Kansas, 1855-1955. Independent Publishing Co., Oskaloosa, Kansas.
- O'Connor, Howard G.
1960 Geology and ground-water resources of Douglas County, Kansas. Kansas Geological Survey Bulletin 148.
- 1971 Geology and ground-water resources of Johnson County, northeastern Kansas. Kansas Geological Survey Bulletin 203.

- Odell, George H.
1979 A new and improved system for the retrieval of functional information from microscopic observations of chipped stone tools. Lithic use-wear analysis, edited by B. Hayden. Academic Press, New York.
- Ogle, George H. and Company
1916 Standard Atlas of Jefferson County, Kansas.
- Osle, George H. and Company
1890 Descriptive Atlas of Jefferson County, Kansas.
1916 Standard Atlas of Jefferson County, Kansas.
- Parisi, John M.
1985 The Cordon Tract Site (23BO303). In Prehistory of the Lower Perche-Hinkson drainage: Archaeological investigations at the Columbia Regional Wastewater Treatment Facility, edited by Larry J. Schmits. Report submitted to the Environmental Protection Agency, the City of Columbia and Black and Veatch Consulting Engineers.
- Patrick, A.C.
1891 Early History of Jefferson County. February 19-December 31 (series of articles).
- Price, Cynthia
1979 19th Century Ceramics in the Eastern Ozark Border Region Center for Archaeological Research, Southwestern Missouri State University, Springfield.
- Price, James P.
1891 Seven Years of Prairie Life. Jakeman and Carver. Herefore.
- Priess, Peter
1973 Wire nails in North America. A.P.P. Bulletin 5(4):87-92.
- Putnam, H.E.
1965 Bottle Identification. Old Time Bottle Pub. Co. Salem, Oregon
- Raab, L. M. and T. S. Klinger
1977 A Critical appraisal of "significance" in contract archaeology. American Antiquity 42(4): 629-34.
1979 A Reply to Sharrock and Grayson on archaeological significance. American Antiquity 44(2):328-9.
- Ramsay, John
1939 American Potters & Pottery. Hale, Cushman and Flint. Ramsay Colonial Press. Clinton, Massachusetts.

- Rasmussen, Wayne D. (Editor)
1960 Readings in the History of American Agriculture.
 University of Illinois Press. Urbana.
- Reeder, Robert L., Eric E. Vheight and Michael J. O'Brien
1983 Investigation in the lower Perche-Hinkson drainage.
 University of Missouri - Columbia Publications in
 Archaeology Number 1.
- Reichart, Milton
1972 A Plainview type point from the Delaware. Kansas
 Anthropological Association Newsletter 18(2).
1973 Gravel bar salvage archaeology, a study made in the
 Delaware River, northeast Kansas. Kansas Anthropolo-
 gical Association Newsletter 19(1,2), Topeka.
1974 A Meserve point from northeastern Kansas. Kansas
 Anthropological Association Newsletter 19(7-8):1-3.
1976 The archaeological resources of Cedar creek: A site
 survey in Jefferson and Jackson counties, northeastern
 Kansas. Kansas Anthropological Association Newsletter
 21 (5,6).
1984 A Munkers Creek knife from the vicinity of Holy Mound on
 the Delaware River of northeast Kansas: a preliminary
 report. Journal of the Kansas Anthropological
 Association 5(1):2-7.
1985 Another Meserve Point from the Delaware River. Journal
 of the Kansas Anthropological Association. 6(3):39-40.
- Kempsburg, George
1936 First White Children Born in Kansas 108 years Ago in
 Jefferson County. Atchison Globe. August 15.
- Reynolds, John D.
1978 Archaeological investigations at the Malm, Anderson, and
 Teaford sites in Perry reservoir, Jefferson county,
 Kansas. Draft report submitted to the National Park
 Service, Interagency Archaeological Services Division by
 the Kansas State Historical Society, Denver.
1979 The Grasshopper Falls phase of the Plains Woodland.
 Kansas State Historical Society Anthropological Series
 No. 7, Topeka.
1981 The Grasshopper Falls phase: A newly defined Plains
 Woodland cultural-historical integration phase in the
 Central Plains. Missouri Archaeologist 42:85-95.

- Rich, Everett (Editor)
1960 The Heritage of Kansas. The University Press of Kansas.
Lawrence.
- Kichmond, Robert W.
1974 Kansas: A Land of Contrast. Forum Press. St. Louis,
Missouri.
- Rittenbach, Laureen and Ed Kost
1981 An approach to the analysis of chipped stone assemblages
on a regional basis. Manuscripts on file. University
of Kansas Museum of Anthropology. Lawrence.
- Reserberg, Robert C. and D. Peter Kvietok
1981 A Guide to Historic Artifacts. High Plains Consultants,
Laramie, Wyoming.
- Rousseau, Rita
1981 Hustle-Bustle to Utilize Perry Bonanza. Lawrence Journal-
World. May 1.
- Russell and Erwin
1980 Illustrated catalogue of American hardware of the
Russell and Erwin Manufacturing Company, 1865. Reprinted
by the Association for Preservation Technology.
- Schiffer, M. J. and G. L. Gumerman
1977 Conservation archaeology: a guide for Cultural Resource
Management studies. Academic Press.
- Schmits, Larry J.
1978 The Coffey site: environmental and cultural adaptation
at a prairie plains border Archaic site. Midcontinent
Journal of Archaeology 3(1):69-185.
- 1981 Archaeological and geological investigations at the
Coffey site, Tuttle Creek Lake, Kansas. Report
submitted to Interagency Archaeological Services Branch,
Rocky Mountain Region. National Park Service, Denver.
- 1984 Research design. In, Archaeological inventory and
evaluation at the Milford, Melvern and Pomona Lake
areas, eastern Kansas. Edited by Larry J. Schmits.
Report submitted to the U. S. Army Corps of Engineers,
Kansas City District.
- Schmits, Larry J. (Editor)
1984 Archaeological inventory and evaluation at the Milford
and Melvern and Pomona Lake areas, eastern Kansas. Draft
report submitted to the U.S. Army Corps of Engineers,
Kansas City, District.

- 1985 Archaeological Data Recovery Investigation at sites
23JA143, 23JA155 and 23JA238, Blue Springs Lake Project,
Jackson County, Missouri. Draft report submitted to the
U. S. Army Corps of Engineers, Kansas City District.
- Schmits, Larry J. and Bruce C. Bailey
1985 The McClatchy Site (23BO991). In Prehistory of the Lower
Perche-Hinkson drainage: Archaeological investigations
at the Columbia Regional Wastewater Treatment Facility,
edited by Larry J. Schmits. Report submitted to the
Environmental Protection Agency, the City of Columbia
and Black and Veatch Consulting Engineers.
- Schmits, Larry J. and James A. Donohue
1984 Survey and testing at Melvern Lake. In, Archaeological
survey and evaluation at Milford, Melvern and Pomona
Lakes, eastern Kansas. Report submitted to the U. S.
Army Corps of Engineers, Kansas City District.
- Schmits, Larry J., Kenneth C. Reid, and Nancy O'Malley
1980 Dead Hickory Tree: a plains Village occupation in east-
central Kansas. Missouri Archaeologist 41:1-56.
- Schoewe, Walter
1949 The geography of Kansas. Transactions of the Kansas
Academy of Science 52(3): 261-333.
- Scoville, D. H., G. J. Gordon, and K. M. Anderson
1972 "Significance" in contract archaeology. American
Antiquity 44(2): 326-8.
- Self, H.
1978 Environment and man in Kansas. The Regents Press of
Kansas, Lawrence, Kansas.
- Sharrock, F. W. and D. K. Grayson
1979 "Significance" in contract archaeology. American
Antiquity 44(2):327-328.
- Socolofsky, Homer E., and Huber Self
1972 Historical atlas of Kansas. University of Oklahoma
Press, Norman.
- Sorenson, C. J., W. Dort, Jr., and K. Sallee
1984 Environmental Geomorphology of the Kansas City-Lawrence
Urban Corridor. In Association of American Geographers
Field Trip Guide, 1984 Joint Meeting of the AAG West
Lakes/Great Plains-Rocky Mountain Divisions, edited by
C. J. Sorenson, R. D. Mandel, and W. Dort, Jr., Lawrence,
Kansas: University of Kansas.

- Sorenson, Curtis J., Ken Sallee, and Rolfe D. Mandel
1986 Holocene and Pleistocene soils and geomorphic surfaces
 of the Kansas River valley. Guidebook of the Midwest
Friends of Pleistocene, Kansas Geological Survey.
- Spivey, T. (Ed)
1979 A Historical guide to wagon hardware and blacksmith
 supplies. Contributions of the Museum of the Great
Plains Number 9. Lawton, Oklahoma.
- Steffey, Irma L.
1975 Ozawkie on the Delaware, 1854-1976.
- Steiracher, Terry L.
1976 The Smoky Hill phase and its role in the central Plains
 Tradition. Unpublished MA thesis, Department of
 Anthropology, University of Nebraska.
- Thornthwaite, C. W.
1948 An approach toward a rational classification of climate.
Geographical Review 38:55-94.
- Toulcuse, Julian H.
1969 Fruit Jars. Everybodys Press Inc., Hanover, Pennsylvania
 and Thomas Nelson Inc. Nashville.
- 1972 Bottle Makers and their Marks. Thomas Nelson Inc., New
 York.
- Truhe, Martha L.
1983 Resort to Lake Perry. Kansas. April.
- Tyrell, George
1978 New Ulm Potters and Pottery: 1860-1900. Masters Thesis
 for the Cooperstown Graduate Programs, University of New
 York at Oneonta, Cooperstown, New York.
- Walker, E.C. and George Harvan
1889 Jefferson County, Kansas.
- Walker, E.P., F. Warnick, K. I. Lance, H. E. Uible, S. E. Hamlet, M. A.
Davis, and P. R. Wright (3rd ed. revised by J.L. Paradiso)
1975 Mammals of the world. 3rd Ed. John Hopkins Press,
 Baltimore (2 vols).
- Wedel, Waldo R.
1938 The direct-historical approach in Pawnee archaeology.
Smithsonian Miscellaneous Collections, 97(7).
- 1959 Introduction to Kansas archaeology. Bureau of American
 Ethnology Bulletin (174), Washington.

- 1964 The Great Plains. In Ancient Native Americans, edited by Jesse D. Jennings, pp. 183-220. Freemarr, Cooper & Co., San Francisco.
- Wendorf, Fred
1978 The Fort Burgwin Conference on National Archaeological Policies. Office of Archaeology and Historic Preservation. Department of the Interior, Washington, D. C.
- Whitson, Mose J. and Barney Slawson
1959 Kansas: Its Geography, History, and Government. Allyn and Bacon, Inc. Boston.
- Whittemore, Margaret
1954 Historic Kansas: A Centenary Sketchbook. University of Kansas Press. Lawrence.
- Wilson, Frank
1984 Geology of Kansas. Kansas Geological Survey.
University of Kansas Press.
- Winslow, John D.
1972 Geohydrology of Jefferson County, northeastern Kansas.
Bulletin 202, Part 4, Kansas Geological Survey.
- Witty, Thomas A., Jr.
1964 Appraisal of the archaeological resources of the Perry reservoir, Jefferson county, Kansas. Report to the Midwest Region, National Park Service, Omaha.
- 1967 The Pomona focus. Kansas Anthropological Association Newsletter 12(9):1-5.
- 1978 Along the southern edge: The Central Plains tradition in Kansas. In The Central Plains tradition: Internal development and external relationships, edited by Donald J. Blakeslee, Office of the State Archaeologist, University of Iowa, Report II.
- 1982 Cultural resources, sample survey of shoreline areas, Perry lake, Delaware river, Kansas. A report prepared for the U.S. Army Engineer District, Kansas City.
- 1982 The Slough Creek, Two Dog and William Young site Council Grove Lake, Kansas. Kansas State Historical Society Anthropological Series No. 10.
- 1983 Four archaeological sites of Perry Lake, Kansas.
Kansas State Historical Society Anthropological Series Number 11.

- Wood, J. J.
1978 Optimal location in settlement space: a model for
 describing locational strategies. American Antiquity
 43(2):258-270.
- Wood, Charles L.
1980 The Kansas Beef Industry. The Regents Press of Kansas.
 Lawrence.
- Works Progress Administration
1939 Kansas, A Guide to the Sunflower State. Federal Writer's
 Project. New York.
- Zernow, William Frank
1957 Kansas: A History of the Jayhawk State. University of
 Oklahoma Press. Norman.

APPENDIX I

GLOSSARY OF TECHNICAL TERMS

alluvial soil - A soil developed from alluvium and exhibiting essentially no horizon development or modification of the recently deposited materials.

alluvium - Soils, sands or gravels deposited by the slowing of running water, such as those released when a stream floods

anthropology - The study of humans inclusive of their physical and cultural attributes. Traditionally, anthropology includes the subfields of physical and cultural anthropology, linguistics, and archaeology.

archaeology - The scientific discipline responsible for recovering, analyzing, and interpreting the unwritten portion of human kind's historic and prehistoric past.

archaeological assessment - An evaluation of the archaeological resources present in an area, their scientific significance, and the cost of protecting or properly investigating them.

archaeological excavation - The scientifically controlled recovery or salvage of a site designed to yield maximum information about the life of the inhabitants, their ways of solving human problems, and of adjusting to and modifying their natural environment.

archaeological inventory - A pedestrian field survey of a given area. This generally includes a records-check.

archaeological resources - Objects and areas made or modified by humans and the data associated with these artifacts and features.

Archaic - A cultural stage prior to the introduction of pottery and agriculture.

arrowhead - A small projectile point often less than one inch in length, used to tip an arrowshaft.

articulated - Bones located in their proper anatomical order.

artifact - A material object made, modified or used by humans. The most common artifacts on archaeological sites include fragments of broken pottery (sherds), stone tools, chips, projectile points, and similar lithic debris.

assemblage - A group of industries found in an archaeological site.

awl - A bone or stone tool used primarily to perforate leather for sewing or in basket weaving.

backed knife - Chipped stone knife with the long edge opposite the cutting edge being intentionally dulled in order to reduce injury to the user.

basal grinding - Dulling the lower lateral edges of a projectile point (usually of Paleo-Indian age) by abrasion in order to reduce the chance of the sinew binding being cut after the point was seated in the shaft.

bifacial - Deliberate alteration upon two opposite surfaces of a stone tool.

blade - Can be either the unhafted portion of a projectile point or a long narrow flake, generally with parallel sides.

blank - An unfinished stone tool partially worked to the shape and size of the intended implement. It is possible that blanks were stockpiled for later completion.

body sherd - Fragment from the lower portion of a ceramic vessel.

B.P. - Before the present.

burial mound - Mounds, often of rock or rock and earth, locally built primarily during the Woodland period which contain human burials.

buried soil - Soil covered by an alluvial, loessial, or other deposit, usually to a depth greater than the thickness of the solum.

camp site - An archaeological deposit, usually small and thin, which is the result of a brief settlement by a group of people.

chert - A structureless form of silica, closely related to flint which was used for chipped stone implements.

chipped stone tools - Knives, scrapers, projectile points, and other artifacts produced by removing flakes.

chronology - The study of a culture or site in terms of its age. The orderly sequence of a series of sites or cultures according to their occurrence in time.

clay - A soil separate consisting of particles 0.002 mm in equivalent diameter. Soil material containing more than 40 percent clay, less than 45 percent sand and less than 40 percent silt.

coiling - A method of manufacturing pottery. Long fingerlike rolls of clay are added one on top of another in a circular fashion, starting at the bottom of a pot and continuing up the sides. The interior and exterior surfaces are then smoothed.

colluvium - A deposit of rock fragments and soil material accumulated at the base of steep slopes as a result of gravitational action.

complex - A series of assemblages or of components which might be defined as a focus (phase), but where there is enough uncertainty as to their associations to refrain from so grouping them.

component - The manifestation of any given focus (phase) at a specific site. The social equivalent of component is the community.

contour - An imaginary line connecting points of equal elevation on the surface of the soil.

contract archaeology - A recent development in which independent archaeologists contract with government or private companies to carry out any surveys or excavations required by antiquities laws.

core - Nodule of stone from which flakes are removed. Typically a core is reduced until most usable flakes are obtained and then it is discarded.

cortex - The outer surface or rind of a chert nodule.

culture - The lifeways of a particular people, including the habits, customs, and artifacts associated with gaining their living, organizing their social and political activities, and practicing their religious rituals and ceremonies.

cultural resources - Districts, sites, structures, and objects and evidence of some importance to a culture, a subculture, or a community for scientific, engineering, art, tradition, religious, or other reasons. These resources and relevant environmental data are important for describing and reconstructing past lifeways, for interpreting human behavior, and for predicting future courses of cultural development.

cultural resource management - The development and maintenance of programs designed to protect, preserve and scientifically study and manage cultural resources.

curation - The systematic maintenance and storage of the archaeological data base in such a manner as to retain the integrity of those data and allow it to be accessible and usable for future researchers.

daub - Mud or similar substance used as a plaster to seal cracks and crevices in a dwelling of frame poles interwoven with twigs. This construction technique is called wattle and daub.

debitage - Residual lithic material resulting from tool manufacture.

determination of eligibility - The determination that a property is eligible for inclusion in the National Register of Historic Places. The determination process, outlined in 36 CFR 63, provides the mechanism whereby a government agency can determine whether its undertaking affects significant properties, as required by P.L. 93-291, Section 3 (a) or (b), for those properties not already on the National Register.

diagnostic artifact - Material remnant of a historic or prehistoric technology that provides a temporal and cultural association, which has been determined by previous scientific investigations.

drill - A chipped stone tool with a beveled, pointed end used as a drill or perforator.

effect - An undertaking shall be considered to have an effect whenever any condition of the undertaking causes or may cause any change, beneficial or adverse, in the quality of the historical, architectural, archaeological, or cultural characteristics that qualify the property to meet the criteria of the National Register.

environment - The physical character of the area in which a culture occurs, including its flora, fauna, climate and land features.

erosion - The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

feature - An area in or on the ground where evidence of past human activity can be seen or detected. Among the most frequent features at archaeological sites are fire pits, storage pits, burial pits, hard-packed house floors, and post holes.

flake - The thin, flattened piece of lithic raw material removed from a stone by pressure or percussion-flaking techniques.

flake tools - Stone tools made from flakes removed from cores.

floodplain - The land bordering a stream, built up of sediments from overflow of the stream and subject to inundation when the stream is at flood stage.

fluted - Term which refers to a stone tool manufacturing technique associated with the Paleo-Indian period and which consists of relatively long parallel-sided scars on tool surfaces.

focus - An archaeological cultural unit possessing traits sufficiently distinct or characteristic to distinguish it from all other units of a locality or region and may in instances correspond closely to the local tribe in ethnology.

geomorphic - Relating to the form of the earth or its surface features.

gouge - A chisel with a scoop-shaped cutting edge to be used in wood-working.

grab sample - A sample of artifacts recovered from the general provenience of the site rather than being individually mapped or collected by grid quadrants.

graver - A small or cutting tool with a sharp point or edge used for boneworking.

granular structure - Soil structure in which the individual grains are grouped into spherical aggregates with indistinct sides. Highly porous granules are commonly called crumbs.

grit tempering - Crushed particles of rock such as limestone, chert, or granite which are added intentionally to pottery clay. The grit tempering is supposed to keep the pottery vessel from breaking when it is fired.

grog - Previously fired clay sherds ground and used as a temper in making new ceramic vessels.

ground stone - Stone artifacts manufactured by pecking and abrading techniques. Usually included in this category are grinding and pounding implements such as the manos, metates, mortars, and pestles, as well as celts and axes.

haft element - The portion of a tool exhibiting some facility, (e.g., notching, constriction, and/or grinding), differentiating it from the working portion of a tool and allowing it to be fastened to a handle or shaft.

hammerstone - A rounded stone often a river cobble used as a hammer and characterized by a battered end.

horizons - Broad cultural similarities observed between a few succeeding phases in a given locality and/or between several contiguous localities such as different river valleys.

horizon, soil - A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an upper case letter represents the major horizons. Numbers or lower case letters that follow represent subdivisions of the major horizons. The major horizons of mineral soil are as follows:

O Horizon. An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A Horizon. The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface

horizon, most of which was originally part of a B Horizon.

Ap Horizon. The surface layer of a soil disturbed by cultivation or grazing.

B Horizon. The mineral horizon below an A horizon. The B Horizon is in part a layer of transition from the overlying A Horizon to the underlying C Horizon. The B Horizon also has distinctive characteristics such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A Horizon; or (4) a combination of these. The combined A and B Horizons are generally called the solum, or true soil. If a soil does not have a B Horizon, the A Horizon alone is the solum.

C Horizon. The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B Horizons. The material of a C Horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, the Roman numeral II precedes the letter C.

R Layer. Consolidated rock beneath the soil. The rock commonly underlies a C Horizon, but can be directly below an A or B Horizon.

indurated clay - Temper inclusions in ceramic paste made from ground shale.

in situ - A Latin phrase meaning "in place". An artifact or object found in its original, undisturbed position. Items found in situ provide an opportunity for establishing firm stratigraphic or other associations for dating purposes.

incising - The act of cutting a design into a pottery surface.

integrity - A site that is intact and undisturbed enough to permit the preservation of significant scientific data possesses integrity.

intensive survey - Systematic, detailed, on-the-ground field inspection conducted by professional archaeologists which is sufficient to permit determination of the number and extent of the resources present and their scientific importance.

intrusive - An archaeological object occurring out of its proper cultural and chronological context.

isolated find - The occurrence, usually on the surface, of a single artifact. Not considered a true site.

kill site - An archaeological site where animals were killed or trapped, and normally having few artifacts in proportion to bone.

knapping - The act of flaking stone tool artifacts.

lanceolate - Shaped like a lance, being tapered at one or both ends. In archaeological usage, the term usually refers to long slender chipped stone points or knives pointed at one or both ends.

lithic - Referring to stone.

lithic scatter - A site characterized by a number of flakes and/or tools.

loam - The textural class name for soil having a moderate amount of sand, silt, and clay. Loam soils contain 7 to 27 percent of clay, 28 to 50 percent of silt, and less than 52 percent of sand.

loess - Material transported and deposited by wind and consisting of predominantly silt-sized particles.

mano - A hand stone that has been shaped for use as a grinding or mealing stone in connection with a metate. It is used for crushing and grinding vegetable matter.

metate - A flat stone upon which seeds and other foods are mashed and ground. A hand stone or mano is used with it.

midden - A trash or refuse deposit.

mitigation - The amelioration of losses of significant scientific, prehistorical, or archaeological data accomplished through pre-planned actions to preserve or recover such data by application of professional techniques and procedures.

msl. - Mean sea level.

national register, the - An official list maintained by the National Park Service of architectural, historical, archaeological, and cultural sites of local, state, or national significance worthy of preservation. These sites are nominated to the Register by states or federal agencies and are approved by the National Register staff of the National Park Service.

ocher - A crushed ferruginous (iron rich) mineral ranging from yellow to brown, used as a pigment. Red ochre (hematite) is very often used for ceremonial purposes.

ossuary - A grave where bones of several persons have been deposited.

palynology - The scientific study of pollen.

percussion, direct - A knapping technique in which the flaking tool such as a hammerstone or antler baton is struck on the core or partially finished tool.

percussion, indirect - A knapping technique in which the flaking tool is struck on an intermediate tool (punch) which in turn strikes the core or partially-finished tool.

ped - A unit of soil structure such as an aggregate, crumb, prism, block, or granule, formed by natural processes (in contrast with a clod, which is formed artificially).

perforator - A chipped stone artifact used as an awl or punch.

petroglyph - An Indian drawing or other symbol incised on a natural rock outcrop.

phase - The manifestation of a basic cultural unit that could be comparable to social units in ethnography, such as a tribe or interrelated bands or any unit that has relatively definite boundaries spatially and chronologically and is relatively uniform culturally.

plano convex - Having one flat and one convex side.

platy - Consisting of soil aggregates that are developed predominately along the horizontal axes that are laminated and flaky.

pleistocene - The earlier epoch of the Quaternary characterized by recurrent ice ages.

point - A bifacially flaked, bilaterally symmetrical chipped stone artifact exhibiting a point of juncture on one end and some facility for hafting on the opposite end.

postmold - A stain in the soil representing a house post or any wooden post after the wood has rotted away. It is identifiable by the darker color than the surrounding soil matrix.

pot sherd - A piece of a broken pottery vessel.

pottery - A mixture of clay and a tempering agent which is hardened by firing.

preform - Any piece of lithic material that has been modified to an intended stage of a lithic reduction sequence in a specified assemblage. It is not a finished implement and it has the type within the assemblage.

prehistoric - Prior to written records.

pothunter - An individual who digs sites for pottery and other artifacts for personal gain. This person cares nothing for context, does not accurately record artifact proveniences or publish results, and often shows disdain for federal regulations which prohibit such activity on public lands.

pressure flaking - A method of chipped stone manufacture in which the knapper puts the tip of the flaking tool (e.g., antler tine) on the edge of the nearly-finished stone tool and then "pushes" off each flake. Pressure flaking is generally the final stage in the making of a stone implement.

primary flake - One of the initial flakes detached from the outside of a core. A portion of the core's weathered exterior (cortex) is retained on the flake.

primitive - Used to describe a culture or individual that has not developed a written language.

principal investigator - A professional archaeologist and the person directly responsible for the location and identification or data recovery project. He is responsible for the validity of the material presented in cultural, historical, and archaeological reports. The principal investigator signs the final report and in the event of controversy or court challenge testifies on behalf of the client in support of report findings.

projectile point - A bifacially-flaked implement with a pointed distal end designed for penetrating an animal's hide and a blunted proximal end designed for attachment to a shaft (e.g. a spear point, dart point, or arrowhead).

Protohistoric - The time immediately preceding the beginning of written history in an area. Quite often European trade goods occur on protohistoric sites, since trade items found their way to the Indians before there was any written history concerning them.

provenience - The exact horizontal and vertical location of an artifact or other remains within a site.

quarry - A location where aboriginal knappers obtained the raw material to make their tools. Much of the reduction of large nodules was often done at the quarry, in order to avoid transporting unnecessary weight back to camp (usually in the form of crude bifaces called blanks).

quartzite - A compact, granular rock composed of quartz, used for chipped stone implements.

radiocarbon dating - A method of obtaining the date of bone, shell, or other organic items by measuring the amount of radioactivity of Carbon 14 in them.

reconnaissance Survey - A literature search and records review plus a preliminary on-the-ground surface examination of limited but representative portions of the area to be affected, adequate to assess the general nature of the resources probably present and the probable impact of a project.

research design - A plan, usually generated by the principal investigator in response to a scope-of-work, outlining the proposed approach to a location, identification, or data recovery project (systematic inventory, field survey, testing, or large scale excavation). The research design spells out relevant research problems, research methods, and some predicted results of the study.

retouch - Secondary flaking of a stone implement to remove surface irregularities and to refine or modify the cutting edge. Always done by pressure flaking.

rim sherd - A fragment of the upper circular edge of a ceramic vessel.

rock shelter - An overhang, usually along the base of a cliff or escarpment in which occupation by humans has taken place.

sand - A soil particle between 0.05 and 2.0 mm in diameter.

scope-of-work - A document prepared by a sponsoring agency, the State Historic Preservation Officer or the National Park Service, setting forth its requirements in a cultural resources study.

scraper - A stone implement used to remove fat from hides, smooth wood, scrape leather, etc. Different types are described in terms of the shape and/or position of the cutting edge: side scraper, end scraper, scraper, etc.

sediment - Deposit of mineral particles, usually clay, silt or sand.

sedimentation - The natural process of soil accumulation derived from alluvial (riverine) or colluvial (mass earth movement) processes.

serrated - Having a saw-toothed or multiple-notched cutting edge.

settlement pattern - Distribution of various sites of human activity in a locality (village sites, quarry sites, kill sites, ceremonial sites, etc.).

shatter - Irregular pieces of lithic manufacturing debris.

shell tempering - Small pieces of crushed shell added to the clay before making pottery common in the Mississippian or Plains Village time period.

sherd - A broken piece of a pottery vessel. One of the most durable of archaeological specimens.

silt - A soil separate consisting of particles between 0.05 and 0.002 mm in equivalent diameter. A soil textural class.

site - Any area or location occupied as a residence or utilized by humans for a sufficient length of time to construct features, or deposit a number of artifacts (e.g., camps, villages, rock paintings, quarry, etc.).

soil - A dynamic natural body on the surface of the earth in which plants grow, composed of mineral and organic materials and living forms. The collection of natural bodies occupying parts of the earth's surface that support plants and that have properties due to the integrated effect of climate and living matter acting upon parent material, as conditioned by relief, over periods of time.

soil map - A map showing the distribution of soil types or other soil mapping units in relation to the prominent physical and cultural features of the earth's surface.

soil profile - Composite distinctive layers and zones of a soil, from the surface to the parent material.

solum - The altered layer of soil above the parent material that includes the A and B Horizons.

spokeshave - A specialized type of scraper with a rounded notch in the edge and probably used for scraping wooden shafts.

strata - Natural or cultural layers in the soil or archaeological sites produced by the accumulation of soil and/or refuse deposits.

stratigraphy - The superimposition of geological or archaeological deposits one upon the other. The relationships indicated by stratigraphy provide a relative system of dating archaeological materials and are therefore extremely important in establishing cultural sequences in an area.

stratum - Single sedimentary layer (plural, strata).

temper - Any substance, such as crushed shell, grog, crushed grit or sand added to pottery clay in order to prevent cracking when the vessel is fired.

terrace - A level, usually narrow, soil surface bordering a river or lake.

testing - A scientific technique of investigating archaeological sites consisting of physical excavation of portions of a cultural or natural deposit and permanent recording of the results.

topsoil - The upper part of the soil that is rich in organic matter.

trait, cultural - A single element or item that is considered to be part of a particular culture. It may be an artifact, house structure, pit, or any smallest unit of a cultural manifestation.

tradition - The socially transmitted cultural form that persists in time (e.g., an artifact tradition, a religious tradition, local cultural tradition, regional cultural tradition, technological tradition, or a major cultural tradition).

transverse fracture - A break in an artifact, parallel or approximately parallel to the base.

typology - The classification of similar artifacts into groups.

unifacial - Deliberate alteration on one surface or edge of a stone tool.

utilized flake - A flake showing evidence of use or wear on one or more edges. No flakes have been intentionally removed, but very small flakes have incidentally detached during use.

vandal - Individual who deliberately destroys or damages archaeological sites.

ware - Pottery or vessels of fired clay.

wattle and daub - A technique of construction involving a framework of poles and interwoven branches which are plastered with clay.

workshop site - An archeological deposit characterized by abundant flaking debris where artifacts were made.

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7 - 87

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